NAVAL POSTGRADUATE SCHOOL
Monterey, California

ARE U. S. NAVAL HOSPITALS OPERATED EFFICIENTLY: A STUDY USING DIAGNOSIS RELATED GROUPS

by

Albert Benjamin Long, III

and

Howard Thomas Osment

December 1986

Thesis Advisor: David R. Whipple, Jr.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

1a REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b RESTRICTIVE MARKINGS
2a SECURITY CLASSIFICATION AUTHORITY	3 DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution is unlimited
2b DECLASSIFICATION/DOWNGRADING SCHEDULE	
4 PERFORMING ORGANIZATION REPORT NUMBER(S)	5 MONITORING ORGANIZATION REPORT NUMBER(S)
6a NAME OF PERFORMING ORGANIZATION Naval Postgraduate School 6b OFFICE SYMBOL (If applicable) Code 54	7a NAME OF MONITORING ORGANIZATION Naval Postgraduate School
6c ADDRESS (City, State, and ZIP Code) Monterey, California 93943-5000	7b ADDRESS (City, State, and ZIP Code) Monterey, California 93943-5000
8a NAME OF FUNDING/SPONSORING ORGANIZATION 8b OFFICE SYMBOL (If applicable)	9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c ADDRESS (City, State, and ZIP Code)	10 SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO / PROJECT NO / TASK NO / WORK UNIT ACCESSION NO

11 TITLE (Include Security Classification)
ARE U. S. NAVAL HOSPITALS OPERATED EFFICIENTLY: A STUDY USING DIAGNOSIS RELATED GROUPS

12 PERSONAL AUTHOR(S)
Long, Albert Benjamin III and Osment, Howard Thomas

13a TYPE OF REPORT	13b TIME COVERED	14 DATE OF REPORT (Year, Month, Day)	15 PAGE COUNT
Master's Thesis	FROM _____ TO _____	1986 December	228

16 SUPPLEMENTARY NOTATION

17 COSATI CODES			18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	hospital cost, DRG, diagnosis related groups, hospital efficiency, naval hospital, NTF, PPS, MEPR, naval treatment facility

19 ABSTRACT (Continue on reverse if necessary and identify by block number)

In an effort to control rampant hospital-cost inflation, Congress passed the Tax Equity and Fiscal Responsibility Act of 1982 and the Social Security Amendments of 1983. The result of these two initiatives is the implementation of a prospective payment system (PPS) that uses diagnosis related groups (DRGs) in classifying patients and reimbursing hospitals for Medicare patients. Using the Health Care Financing Administration's (HCFA) methods (i.e., rates, weights and ICD-9-CM DRGs) for determining reimbursable amounts, this analysis examines the postulation that the typical U.S. naval hospital--if reimbursed for actual inpatient workload--would have received more than its incurred expenses. Data for three naval hospitals over a two-year period (FY83 and FY84) are used. Findings of this analysis suggest that on the average the typical naval hospital would have been

20 DISTRIBUTION/AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS	21 ABSTRACT SECURITY CLASSIFICATION Unclassified
22a NAME OF RESPONSIBLE INDIVIDUAL David R. Whipple, Jr.	22b TELEPHONE (Include Area Code) 408-646-2754 22c OFFICE SYMBOL 54Wp

DD FORM 1473, 84 MAR 83 APR edition may be used until exhausted
All other editions are obsolete

SECURITY CLASSIFICATION OF THIS PAGE

#19 - ABSTRACT - (Continued)

reimbursed 32 percent more than actual inpatient expenses had it been reimbursed under Medicare.

Approved for public release; distribution is unlimited

Are U. S. Naval Hospitals Operated Efficiently: A Study Using Diagnosis Related Groups

by

Albert Benjamin Long, III
Lieutenant, Medical Service Corps,
United States Navy
B.S.B.A., Appalachian State University, 1975
M.H.H.C.A., Saint Louis University, 1977

and

Howard Thomas Osment
Lieutenant, Medical Service Corps, United States Navy
B.S., University of New Hampshire, 1982

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
December 1986

ABSTRACT

In an effort to control rampant hospital-cost inflation, Congress passed the Tax Equity and Fiscal Responsibility Act of 1982 and the Social Security Amendments of 1983. The result of these two initiatives is the implementation of a prospective payment system (PPS) that uses diagnosis related groups (DRGs) in classifying patients and reimbursing hospitals for Medicare patients. Using the Health Care Financing Administration's (HCFA) methods (i.e., rates, weights and ICD-9-CM DRGs) for determining reimbursable amounts, this analysis examines the postulation that the typical U.S. naval hospital--if reimbursed for actual inpatient workload--would have received more than its incurred expenses. Data for three naval hospitals over a two-year period (FY83 and FY84) are used. Findings of this analysis suggest that on the average the typical naval hospital would have been reimbursed 32 percent more than actual inpatient expenses had it been reimbursed under Medicare.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENT

This thesis is the result of the assistance of many individuals who are presently acknowledged. Ms. Velda Austin and LtCol John Coventry, MSC, USA, Tri-Service DRG Study Group, U. S. Army Health Care Studies and Clinical Investigative Activity, Fort Sam Houston, TX, provided the necessary DRG data by transforming ICD-9-CM discharge data into meaningful biometric data. CDR Carl Chitwood, MSC, USN, and LCDR Steve Olson, MSC, USN, Naval Medical Command, Washington, DC, assisted us in understanding the DoD's cost accounting reporting system and provided the expense data for the three NTFs used in this analysis. We extend our deepest and most heartfelt appreciation to Dr. David R. Whipple, Jr., Naval Postgraduate School, who, over these last eighteen months, has been the decisive factor in making this academic experience first rate. To the sage professor of our first and, unfortunately, only graduate course in Managerial Communications, Dr. Roger Evered, Naval Postgraduate School, who unwittingly yet nonetheless indirectly shares responsibility for all grammatical, syntax, and/or diction mistakes contained herein, we thank you for demanding only the highest quality products and for encouraging us to strive beyond what we felt were our maximum capabilities. To our wives,

Melissa and Pat, Ben's daughters, Margaret and Laura, and our Rottweilers, Mack and Nugget, we could not have completed this thesis without your understanding, patience, and sacrifices. And to our critics who may say *oleum perdistic* to us, we say, as did Virgil in the *Aeneid*, *non omnia possumus omnes* to them.

I. INTRODUCTION

A. GENERAL

On 1 October 1983, the Health Care Financing Administration (HCFA), which is part of the Department of Human and Health Services, implemented a prospective prospective payment system (PPS) that uses diagnosis related groups (DRGs) to reimburse civilian hospitals for treating inpatients under Medicare. Historically, hospital-cost inflation has run much higher than general inflation; yet tentative findings indicate use of DRGs may be slowing this growth. In the future, a hospital's financial well-being will be directly tied to its ability to contain costs. In the civilian health care sector emphasis appears to be shifting from retrospective, cost-pass-through methods to one of prospective, fixed cost based on specific case mixes. This emphasis on PPS using DRGs is part of the strategy to design better management/financial control subsystems into the overall health care delivery system, providing incentives for its participants (physicians, administrators, trustees, and staff personnel alike) to provide more efficient care.

Diagnosis related groups are part of a patient classification system that uses 470 case-mix groupings, which are largely based on various characteristics that

are statistically homogeneous. As a measurement of output or surrogate of efficiency, the DRG patient classification system comes considerably closer to assessing the true nature of a hospital's product than any other proxy used today. For the first time, DRGs enable measuring the output of hospitals by grouping various hospital services into product groups. Moreover, DRGs permit hospitals to identify DRGs that are profitable (revenues exceed related expenses), and conversely, categories or case-mix groupings that are unprofitable (i.e., are more of an expense center product than a profit center) by employing the concept of case-mix accounting.

As an extension of this capability, this thesis investigates and analyzes what three typical naval hospitals would have received had they been reimbursed under Medicare's DRG and PPS reimbursement methods, as contained in Public Law 98-21.

B. OBJECTIVES OF THE RESEARCH

The objectives of this research effort are twofold. First, the authors want to determine whether a feasible and meaningful comparison of inpatient care costs can be made between civilian and naval treatment facilities (NTFs) using DRGs. Second, if possible, we would like to develop an algorithm or model that enables comparison between what the typical NTFs would have received under

Medicare's prospective reimbursement scheme and what these NTFs actually expended for specific inpatient workloads. Actual workload data for two fiscal years will be used to make the comparison.

C. RESEARCH QUESTIONS

The research hypothesis is: NTFs' inpatient operating expenses are less than the reimbursement levels these naval hospitals would have received under the provisions of Public Law 98-21. If true, this would imply that NTFs are efficient when judged by this private sector standard.

Secondary questions are:

1. Will the uniqueness of the U.S. Naval Medical Command's NTFs prevent a meaningful comparison between themselves and Medicare's reimbursement scheme?

2. If the Veterans Administration's average adjusted cost per discharge, HCFA cost weights, and DRGs are used for determining reimbursement amounts will NTFs' actual inpatient operating expenses be less than the VA constructed reimbursement level.

3. Are NTFs' thirty most frequent DRGs similar in each facility and among NTFs from one year to the next? and are the NTFs' thirty most frequent DRGs similar to those in California?

4. If NTFs' inpatient care costs are lower than Medicare's reimbursement amounts, what exactly does this suggest?

D. RESEARCH METHODOLOGY

The research methods employed by the authors include the gathering of information from the most current and relevant literature, and telephonic and personal

interviews. In an effort to gain insight into the Naval Medical Command's perspective on the role of efficiency and current methods used to assess efficiency, the authors personally interviewed the: (1) Surgeon General of the Navy, (2) Commander, Naval Medical Command, (3) Commander, Naval Medical Command, National Capital Region, (4) Director, Research Department, Naval School of Health Sciences, and (5) various personnel within NAVMEDCOM Codes 13 and 14, who provided the cost accounting reporting documents. Literature was obtained from the Naval Postgraduate School Library, Defense Logistics Studies Information Exchange, Dialog Information Services, California's Mid-Coast Health Systems Agency, and applicable regulations, directives, and instructions that govern DOD's cost accounting reporting system. Extensive telephonic discussions were conducted with the Tri-Service DRG Study Group at the U.S. Army Health Care Studies and Clinical Investigation Activity in obtaining biometric data. Information and data gathered from the above sources were used to analyze how DRGs were being employed by the civilian health care sector and how best our proposed analysis could and should be conducted.

E. SCOPE AND LIMITATIONS

This analysis examines the development, implementation, and controversy of DRGs, their potential

role in controlling hospital costs, and, most importantly, how HCFA's (or Medicare's) DRGs can be utilized in assessing the relative efficiency of NTFs. Accordingly, this thesis limits the discussion to only those parts of the DOD cost accounting reporting system that pertain directly to or in understanding the foundation of the analysis. The thesis does not address all the nuances HCFA used in formulating DRG groupings, the esoteric literature findings that pertain to current DRG research, or any particulars of the personal interviews. Essentially, only information that is relevant and valid to the analysis, itself, and to understanding DRGs and the cost reporting system is provided. The intended audience of this thesis are those who have a basic familiarity of the civilian and U.S. Navy's health care system but who are not necessarily familiar with DOD's cost accounting systems or provisions of Public Law 98-21.

Since the biometric data for FY85 were replete with inaccurate and incomplete data, the authors elected to use only two fiscal years of data for comparative purposes. Although they used only the most accurate and best available data for this analysis, the authors were by necessity limited to a small sample population of three NTFs. Therefore, the findings are at best preliminary and should be cautiously interpreted.

F. ORGANIZATION OF THE THESIS

The organization of the thesis is designed to present a logical progression toward a comprehensive understanding of DRGs, a basic understanding of the DOD cost accounting reporting system, and specifically, why and how our analysis is formulated. Chapter II presents a wide range of information, varying from a conceptual discussion of the factors behind cost containment and hospital-base inflation to a discussion of the perceived pros and cons of DRGs. Chapter III describes the prospective payment system under Public Law 98-21 and DOD's cost accounting reporting system as it is used in military treatment facilities. Chapter IV contains as in-depth discussion of the data, research methodology, and findings of the analysis. Chapter V discusses the conclusions drawn from the findings and proffers recommendations based on these findings and conclusions.

II. BACKGROUND

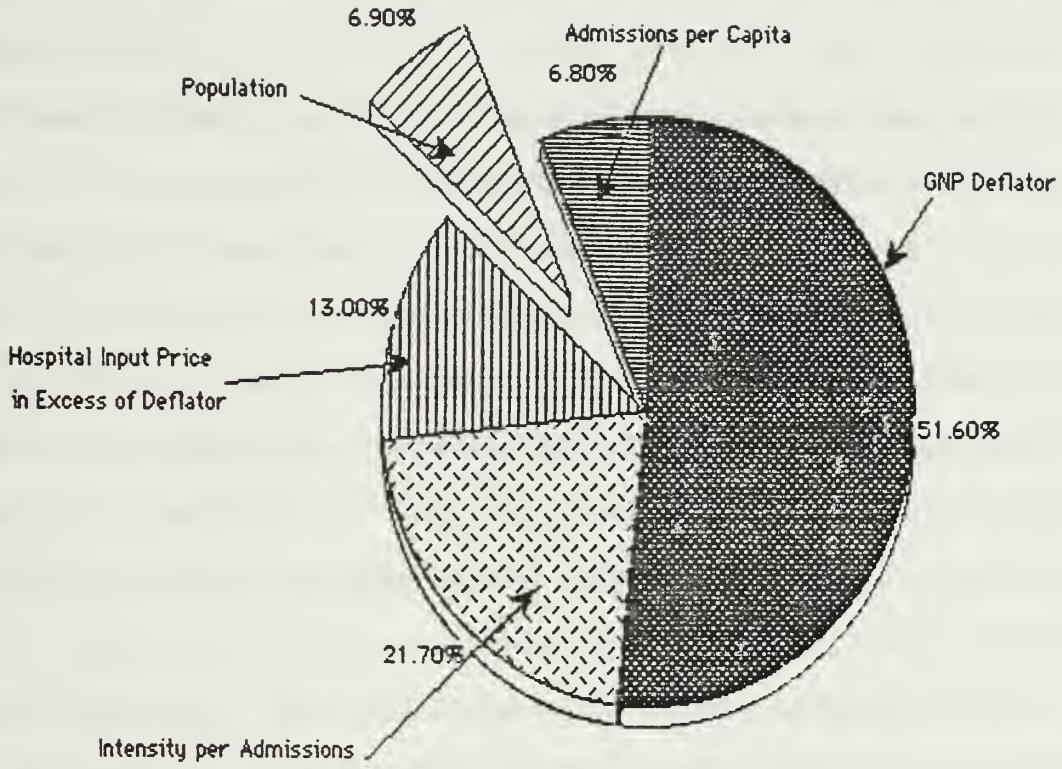
A. COST CONTAINMENT INITIATIVES AND ECONOMIC ANALYSIS OF HOSPITAL-BASE INFLATION

The health care field over the last several decades has experienced rising costs, particularly when contrasted with other sections and components of the economy. In 1983, the nation spent $147 billion for hospital care compared to $39 billion in 1972--an increase of 277 percent. During this same ten-year period, per capita costs for hospital care rose from $179 to $604. Today, 11 percent of the Gross National Product is comprised of hospital and health care services. Of this 11 percent more than 4.5 percent is devoted solely to hospital expenditures and, by 1990, it is estimated that hospital expenditures alone will be $304 billion. [Ref. 1:p. 5]

Hospital administrators, physicians, third party payers, and numerous regulatory and governmental agencies have all tried to control these escalating hospital costs through a wide range of initiatives and cost containment measures: (1) health planning (i.e., comprehensive health planning and health systems agencies); (2) professional standards review organizations (PSROs); (3) health maintenance organizations (HMOs); and (4) cost sharing by

third party payers [Ref. 2:p. 3]. In large part, these initiatives have at best met with only limited success. This remains true today because the design of the health care delivery system fails to provide the necessary and holistic incentives in the hospitals' structure and process.

But before analyzing the hospitals' incentive design systems and related management control systems using DRGs and PPS, let us first examine the factors responsible for the significant increases in hospital cost. One method of examination involves disaggregating expenditures into broad categories [Ref. 3:p.4]. In their book, Planning and Internal Control Under Prospective Payment, Broyles and Rosko discuss how Freeland and Schendler use disaggregating expenditures to establish general patterns of care. For the period 1971-1981, Freeland and Schendler identify factors that comprise hospital expenditures (with the relative importance of each in parentheses): general inflation (51.7%), growth in real services per visit (20.8 %), medical price increases relative to general price inflation (11.7%), growth in per capita visits (8.6%), and aggregate population growth (7.2%). As depicted in Figure 2-1, Freeland and Schendler disaggregate hospital inpatient care in a similar manner for 1972-1982 [Ref. 1:p. 7].



Source: Mark S. Freeland and Carol Ellen Schendler, "Health Spending in the 1980s: Integration of Clinical Practice Patterns with Management," Health Care Financing Review, vol. 5, (Spring 1984), Figure 5.

Percent Distribution of Factors Accounting for the Growth of Expenditures for Community Hospital Inpatient Care, 1972-1982

Figure 2-1

Essentially there are three factors that affect aggregate expenditure for hospital care: unit price, quantity, and quality [Ref. 1:p. 6]. If one of these factors increases, while the others are held constant, the total expenditure will likewise increase.

Although 64.9 percent of the increase in hospital inpatient cost is attributable to inflation, ("GNP Deflator" plus "Hospital Input Price in Excess of Deflator") only 13 percent of it is hospital-specific related. The significance of this finding is that overall hospital costs (unit prices) are markedly affected by the general economy.

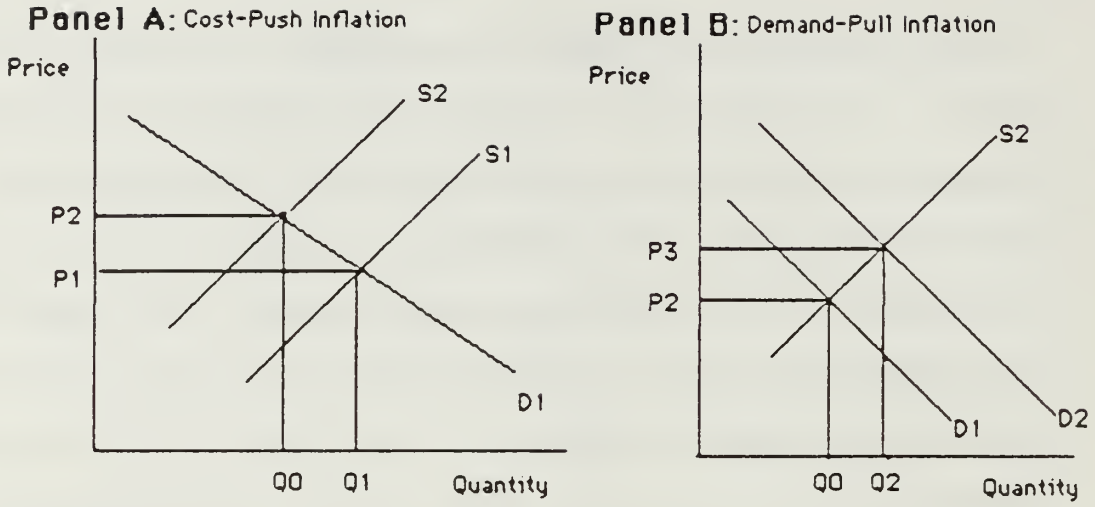
The second factor affecting hospital expenditure is quantity. During the period 1972-1982, both population and per capita admissions increased. The total U.S. population increased by 10.7 percent, which caused a 6.9 percent increase in hospital expenditure. Admissions also increased for two reasons: (1) patients are more knowledgeable and demanding, requiring physicians to practice defensively, and (2) the percentage of elderly in the total population grew concomitantly with an increase in the use of hospital-based care. This latter fact portends an even greater proportional increase in the hospital inpatient costs because of the number of persons 65 years and over is projected to increase 16

percent between 1983 and 1990--including a 22 percent rise in the number of persons over 74 years. [Ref. 1:p. 8]

The third factor affecting aggregate expenditures for hospital inpatient care is quality. It is assumed that higher quality of care only comes with increased costs. This fact has not been necessarily supported by relevant literature. Over this ten-year period, the number of full-time equivalent employees has increased approximately 22 percent. However, one cannot equate this increase with a corresponding increase in the quality of care. What is important is that the continual demand or insistence for improved quality will probably mean an even greater intensity level per admission, and, therefore, higher hospital costs.

Even though the factors of unit price, quantity, and quality help to explain **what** has happened and the ordinal relationship of these factors to one another, they fail to explain **why**.

Another method in evaluating the causes of hospital inflation uses economic analysis based on two predominant theories to answer **why**; these are the "cost-push" model and the "demand-pull" model [Ref. 3:p. 5]. As depicted in Figure 2-2, one can see using the "cost-push" model that this supply-side model has had a shifting of the supply curve from S1 to S2 as direct result of the causes



Panel C:

Causes of cost-push inflation

- increased prices for factors of production
- increased full-time equivalent employee (FTE)/patient ratio
- expensive new technology
- costs of regulatory compliance
- lagging labor productivity
- inflation in the general economy
- cost-based retrospective reimbursement

Causes of demand-pull inflation

- increase in general population
- increase in elderly population
- increase in income
- defensive medicine
- availability of new services
- growth of public and private health insurance

Source: Adapted from Planning and Internal Control Under Prospective Payment by R. W. Broyles and M. D. Rosko (Rockville: Aspen Publishers) 1985.

Causes of Hospital Cost Inflation

Figure 2-2

listed in Panel C. Similarly, using the "demand-pull" model, one can see the demand curve for hospital services shifting from D1 to D2. Together these models help explain why prices for hospital services have steadily increased over the last ten to twenty years. The "common thread" to both models/theories lies in the cost-based hospital reimbursement methods, which have been done largely on a retrospective, cost pass-through basis without any price rationing incentives for the consumer or the provider [Ref. 3:p. 7]. These models and the listed causes of inflation should help to illustrate why inflationary costs for hospital-based care might continue to outpace the general economy in the years ahead unless some mechanism is put in place to contain costs. This mechanism may well be DRG-based measurement under a PPS.

B. RETROSPECTIVE VERSUS PROSPECTIVE REIMBURSEMENT OR EFFECTIVENESS VERSUS EFFICIENCY

Before discussing the development or evolution of DRGs and case-mix measures let us briefly examine first the differences between retrospective reimbursement and prospective reimbursement.

Both terms--retrospective and prospective reimbursement--are used in conjunction with rate-setting programs under either a governmental program or a third party payer program, such as the pre-1983 Medicare and Blue

Cross/Blue Shield programs, respectively. Under retrospective reimbursement hospitals are reimbursed after the services are rendered and costs are incurred. Hospitals are given interim payments throughout the year; at the end of the payment year, a complete review is conducted on the costs incurred and services rendered with a final adjustment made for the differences between approved costs/services and payments already made. Inherent with a retrospective payment system is the design incentive to spend as much as the hospital feels is appropriate. [Ref. 1:p. 10] Therefore, the reimbursement system and financial management control systems are largely driven by effectiveness rather than efficiency.

As a rate-setting mechanism, prospective reimbursement essentially preapproves anticipated services and costs, paying in advance a payment based on the expected case-mix workload. At the end of the year nominal adjustments are made to ensure hospitals and third party payers receive an equitable adjustment. Unlike retrospective reimbursement, the prospective payment system gives hospitals incentives to be frugal and cautious in the pursuit of their programs and objectives. The underlying design incentive then is to meet an effectiveness level--be it a "high level of quality" and/or provision of certain programs--while concomitantly

meeting funding constraints imposed by case-mix reimbursement. If a hospital provides inpatient care for less than its costs then the hospital ostensibly stands to make a profit. With the prospective payment system the emphasis appears to shift from the effectiveness model to one driven more by efficiency.

C. CASE-MIX MEASURES, COSTS, ACCOUNTING, AND BUDGETING

Before specifically discussing DRGs, it is important to understand the concept of how different patient case mixes can directly affect a hospital's costs. All other things equal and hospitals have an increase in the inpatient workload, costs will similarly increase; however, it is possible for hospitals to have an increased inpatient workload yet experience lower total costs. Conversely, hospitals can have a decreased workload and experience higher total costs. The explanation for this disparity in cost revolves around the issues of intensity of services and complexity of care rendered or, in other words, case mix. The issue of complexity relates to the types of services; whereas, intensity relates to the number of services per patient day or hospital stay [Ref. 1:p. 21]. As Grimaldi and Micheletti point out, there is no precise consensus on what comprises complexity. Certainly there are at least these five relevant factors: ". . . severity of an

illness, the prognosis or likely outcome of an illness, the difficulty of treating the case, the need for timely intervention, and the amount and composition of resources used to treat the patient." [Ref. 1:p. 64] Again, the important point is that case complexity and intensity of service are the two key components of case mix.

Health care researchers, analysts, and hospital administrators alike acknowledge that historical methods of measuring output--through such surrogates as departmental inpatient bed days and number of admissions--fail to accurately capture the relationship between services provided and the costs incurred. That is, traditional output proxies are poor for purposes of assessing and monitoring the relationship between input--manpower, technology, facilities, and equipment--and output, patient care through hospital services. Accordingly, traditional managerial accounting systems are inadequate since they tend to reflect data and information in the aggregate and on a departmental level with no accountability for individual patients being financially managed [Ref. 4:p. 56].

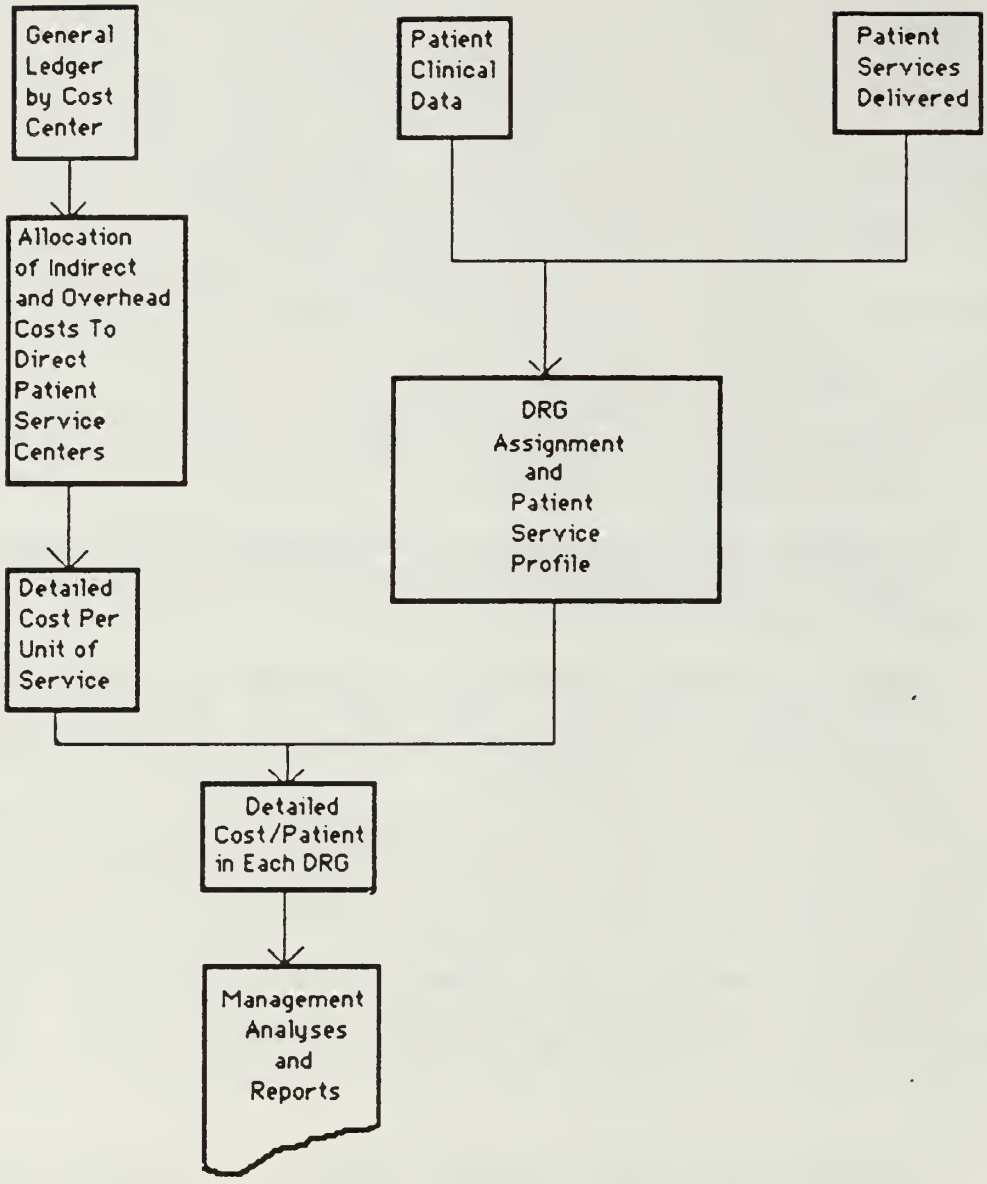
Under the traditional organizational structure of hospitals, departments are not required to ensure that individual patients are both efficiently and effectively managed. Hospital structures that use the case-mix accounting and budgeting process have an integrated

picture of the financial consequences of providing inpatient care to individual patients in each of the DRGs, as Figure 2-3 represents. This type of process enables hospitals to gain an understanding in detail of the "profile of service requirements" and costs per patient grouped into product lines. To achieve this, three inputs are required [Ref. 5:p. 51]:

- Patient clinical data must be sufficient to determine DRG assignment;
- A "bill of particulars" is needed that describes specific diagnostic and therapeutic services delivered to each patient; and
- Detailed costs per unit of service (laboratory, radiology, dietary, etc.) must be developed based on whatever are deemed to be appropriate definitions of such services.

As will be discussed in the section on product definition, hospitals that are organized in a matrix-type manner will possess the capabilities to use the case-mix accounting and budgeting concept in its fullest application.

Although case-mix measures appear to provide a better method for assessing, monitoring, and evaluating input-output relationships than these historical methods, there is lack of consensus on which grouping strategy or patient classification system using case mix is optimal (e. g., DRGs, John Hopkins Severity Score, Systemetrics Disease Staging, Blue Cross of Western Pennsylvania Patient Management Categories, etc) [Ref. 3:pp. 15-16].



Source : Robert B. Fetter and Jean L. Freeman, "Diagnosis Related Groups : Product Management within Hospitals," Academy of Management Review, 1986, vol. 11, no.1, Figure 1

Overview of Case Mix Cost Accounting Process

Figure 2-3

There is agreement then that patients' clinical requirements greatly affect costs but there appears to be a disagreement on precisely what factors best explain this variation in cost or length of stay. Even though the state of development of a optimal case-mix grouping technique is in flux there is agreement that whatever case-mix method (patient classification system) is finally accepted it should contain these properties [Ref. 1:p. 22]:

- be derived from a reliable and readily available source,
- be calculated in manner that would preclude spurious manipulation to suit one's purpose,
- be accepted by physicians and understood by hospital personnel, and
- be cost beneficial (i.e., the benefits outweigh the costs).

When hospitals use case-mix measurements and accounting techniques, it enables them to produce more actual and accurate management information. Case-mix approach to controlling hospital costs ". . . provides a clear, complete picture of the costs of treating individual patients grouped into similar case classes based on use of resources to set norms and standards for a management control system" [Ref. 4:p. 57]. This approach, as such, is based on DRGs, which classifies cases into groups and thus groups into hospital products that use similar

amounts of services and resultant resources [Ref. 6:p. 240].

As Collins points out, the key issue with the hospital management control system using case-mix methods is to motivate physicians to use resources in an economical manner [Ref. 4:p. 56]. Using case-mix (DRG) accounting measurements, hospital administrators clearly should be better able to determine which physicians deviate between their actual costs and the standard costs associated with the particular DRG. Similarly, physicians, themselves, will better understand the ramifications of their medical decisions in an economic framework. Case-mix methods and measurements allow hospitals to more precisely identify costs and to gain insight between these costs (inputs) and services (outputs) provided. A later section of this chapter will discuss specific case-mix measurements, the pros and cons of DRGs, and what incentives exist or do not exist for physicians to practice medicine more efficiently and effectively.

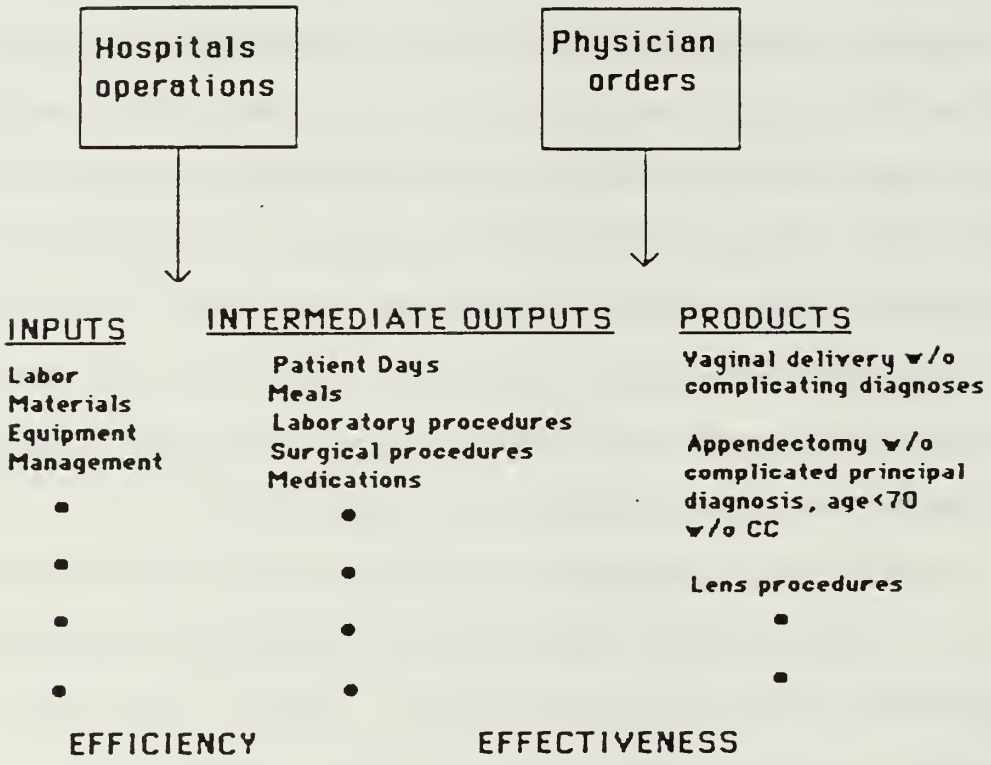
D. PRODUCT DEFINITION AND MATRIX ORGANIZATIONS

As previously described, the DRG approach enables hospitals for the first time to describe their system in terms of production. Chase and Aquilano define product as " . . . the output from a productive system offered

for sale (in the case of a business) or otherwise made available (in the case of a governmental or philanthropic organization) to some consumer." [Ref. 7:p. 26] A hospital provides a wide range of services to its patients. These include x-rays, surgery, nursing care, physician care, medications, hotel and social services. Although these services may seemingly be interpreted as the final output of hospitals, they are only intermediate outputs. The final output of hospitals is to treat individual patients; therefore, specific sets of these intermediate outputs constitutes for each patient a "product" of the hospital (See Figure 2-4).

Fetter and Freeman explain that a hospital is a ". . . multiproduct firm with each product consisting of multiple goods and services." [Ref. 5:p. 42] This product line is extensive and is made up of numerous intermediate outputs, (hours of nursing care, number of lab tests, meals, medications, etc.) and inputs (capital, labor, material) [Ref. 6:p. 231].

Fetter and Freeman view the output of hospitals much like matrix programs are used in industry, such as in the development of the U.S. space shuttles or the Apollo Project. They compare these matrix-type programs to a hospital's "projects," as "projects" consist of multiple services (intermediate outputs) based on the types of patients the hospital treats [Ref. 5:p. 43]. They see



Source: Robert B. Fetter and Jean L. Freeman, "Diagnosis Related Groups Product Management within Hospitals," Academy of Management Review, 1986, vol. 11, no. 1, Figure 1

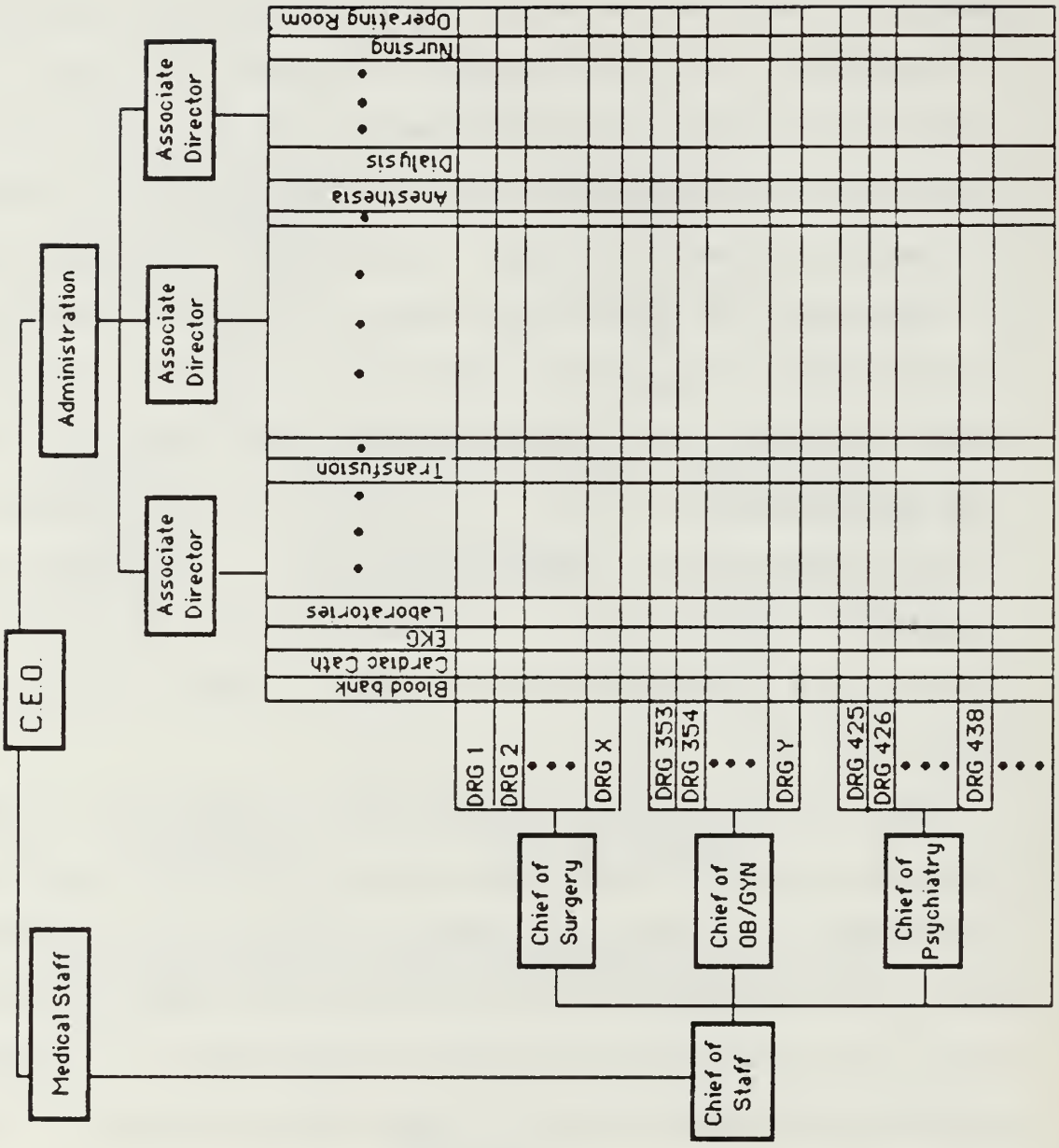
Defining the Product of Hospitals

Figure 2-4

each particular product (project) being a function of a patient's condition as well as his/her treatment regimen.

Briefly, as represented in Figure 2-5, what is proposed by Fetter and Freeman in the clinical matrix organization is first that physicians be placed in charge of specific subsets of DRGs. It is their responsibility to determine the appropriate mix of resources necessary in diagnosing and treating each type of patient. Second, middle managers and administrators are responsible for the operational results of the intermediate support centers: lab, x-ray, laundry, etc. Thus, physicians are responsible for defined groups of patients and administrators are responsible for clinical support services. [Ref. 5:p. 49]

What the matrix-type organization permits is a means of measuring performance along whatever product lines are established. Young and Saltman propose, for example, that if the average cost for a particular DRG increased over a set period of time, the reason for the increase could be explained in one of three ways: increase in use of resources, increase in resource (input) prices, and/or decrease in operational efficiency [Ref. 5:p. 49]. A variance report is designed and used to detect whether physicians are using more resources than previously used, or whether administrators are not as productive. Of course, the other factor--an increase in input



Source: Robert B. Fetter and Jean L. Freeman, "Diagnosis Related Groups: Product Management within Hospitals," Academy of Management Review, 1986, vol. 11, no. 1, Figure 4

Clinical Matrix Management

Figure 2-5

prices--could well be the reason. As with any variance report, the onus is placed on the person or group responsible for that profit or activity center to justify the deviation. For this type of arrangement to be successful, Fetter and Freeman similarly purport, as do Young and Saltman, that the control system based on the matrix organization must have a cost accounting system which clearly distinguishes between both fixed and variable costs, and controllable and uncontrollable costs. [Ref. 5:p. 49] Hence, if the product and matrix organizational approach is to succeed, case-mix accounting and budgeting systems, which provide information along product lines, are required.

In their discussion, Fetter and Freeman clearly indicate that, even though it is quite possible to have well-defined case types (with a set of diagnostic and therapeutic services normally expected), cost variations of great significance occur, even for well understood illnesses where there is great consensus among providers as to the appropriate treatment process [Ref. 5:p. 43].

Moreover, products are largely identified and broken down into groups by factors that predict amounts and types of services required. While the set of services in Table 1 might well represent the expected values for this kind of patient (one who is less than 70 years-of-age, without complications or comorbidities, and with a

TABLE I

DRG167: APPENDECTOMY W/O COMPLICATED PRINCIPAL DX AGE< 70 W/O CC[a], HOSPITAL X

Resource consumption profile	Qty	Unit Cost	Total Cost
Nursing care days, level 1	2	$65.78	$131.56
Nursing care days, level 2	2	89.32	178.64
Dietary, meals (STD)	12	2.50	30.00
Operating room (minutes)	60	2.48	148.80
Recovery room (hours)	1	30.50	30.50
Anesthesia	1	42.75	42.75
Lab test 198	1	6.95	6.95
Lab test 205	4	11.32	45.28
Lab test 206	3	4.16	12.48
IV therapy 614	2	6.15	12.30
Abdomen x-ray	1	26.55	26.55
Miscellaneous			189.26
Total cost			$870.17

Source: Robert B. Fetter, John D. Thompson, and John R. Kimberly, Cases in Health Policy and Management, (Homewood, Ill.:Richard D. Irwin, 1985).

primary diagnosis of appendicitis) some conditions vary considerably in cost of hospitalization. Cost of hospitalization is predominantly a function of length of stay (LOS); ergo, the longer one stays hospitalized, the more resources are consumed--though perhaps at a diminishing rate. Length of stay is almost always a physician-determined variable, though variation by any one physician is usually quite small. [Ref. 5:p. 44]

Additionally, variation in the cost of care is not only affected by physicians' decisions but also by the efficiency of actual hospital production of intermediate outputs. As previously mentioned, hospitals must be able to assess, monitor, control and evaluate their **efficiency,** but they must also be able to control the level of **effectiveness** in which these services are rendered. Otherwise, they will be unable to control the process and structure and, while great strides may be made in improving efficiency, these improvements can be more than offset by efforts to maximize effectiveness. For this reason, it is paramount to first develop a conceptual framework which permits analyzing the system by defining the actual products. Diagnosis related groups make this identification of products a reality.

E. AN OVERVIEW OF DIAGNOSIS RELATED GROUPS

Although up to this point we have only mentioned DRGs in rather broad terms and have cursorily defined what

they mean, it is appropriate to explain how DRGs evolved both on the state and federal levels, the statistical technique used to form DRGs, some other case-mix measures and, perspectives on the pro and cons of using DRGs as a patient classification method.

Diagnosis related groups are an outgrowth of what Fetter and Thompson started to develop at Yale University in the early 1970s. They realized that to make meaningful comparisons and analyses of hospital management, cost control, and planning that case-mix information needed to be included. They further realized that whatever classification system was developed it needed these four characteristics [Ref. 8:p. 562]:

- The number of patient groupings should be manageable;
- The system should use available medical and demographic data;
- Groupings of medically similar patients should be statistically stable in terms of the hospital resources; and
- The statistically similar groups should be similar medically as well.

They opined that classification based on the above characteristics would permit DRGs to center on patient attributes and the treatment process rather than on such surrogates as bed size, occupancy rate, and service

capacity of a hospital or its medical staff's specialties [Ref. 1:p. 22].

Statistical techniques were used by these researchers at Yale to form medically coherent groups, groups (i.e., DRGs) that used similar quantities and type of resources and were medically related. Resource consumption was assumed to vary directly with length of stay and thus LOS was selected as the dependent variable. In forming the DRGs, physicians assisted in transforming diagnostic codes into specific DRG groups. Accordingly, upon discharge a patient's final diagnosis is used to place the patient into one of the DRGs.

Diagnosis related groups evolved from the efforts of Fetter, Freeman, and Thompson as a case-mix grouping strategy. They based the groupings on diagnostic, demographic, and therapeutic characteristics of inpatients using the International Classification of Disease, 8th revision (ICDA-8) and HICDA-2 diagnostic codes. The second generation of DRGs, however, uses ICD-9-CM codes for the basis of its groupings. The first generation consisted of 383 DRGs and the second has 470. Both of these groupings are mutually exclusive and exhaustive. In addition to using different coding schemes, the biggest difference between these two generations of DRGs is that the newest DRGs are grouped based upon specific surgical procedures and secondary

diagnoses rather than the mere presence or absence of surgical procedures or secondary diagnoses [Ref. 9:p. 2]. A later section of this chapter discusses more specifically the role of the ICD-9-CM codes in forming case-mix definitions and their use in differentiating among levels of hospital resource use and in differentiating clinically among types of patients.

F. STATISTICAL METHOD USED FOR FORMING DRGs

The statistical method used by Fetter, Freeman, and Thompson in developing these groupings is a variation of the Automated Interaction Detector (AID) method of Sonquist and Morgan [Ref. 10]. Marketing researchers at the University of Michigan Survey Research Center have often used AID in analyzing complex sample survey data which is based on income, age, sex, education, etc. [Ref. 11:pp. 415-434] [Ref. 1:p. 23].

As Grimaldi and Micheletti discuss, the AID's role in forming DRGs is one of statistical testing; however, unlike marketing applications more information and input than just statistics is used in forming these terminal groups [Ref. 1:p. 23]. Specifically, physician input has been used in formulating groups in order to ensure each DRG is medically/clinically coherent and meaningful conditions are contained within each. In using the AID

package the objective is to identify the "interrelationships of the variables in the database and to determine which ones are related to some specific measures of interest, referred to as the dependent variables." [Ref. 4:p. 57] Although the AID package cannot ensure the groupings are clinically related, physicians can. As Grimaldi and Micheletti relate [Ref. 1:p. 23]:

> A medically meaningful classification (scheme) stimulates expectations as to the natural history of the disease, the appropriate ways to manage the case, the prognosis, the likelihood of complications of specific kinds, of the risk of death. Determination of medical meaningfulness is therefore a subjective process, best accomplished by consensus of clinicians from the defined population. [Ref. 12:p. 249]

Although the primary disadvantage of forming groups in this manner is a loss of statistical homogeneity, the DRG system as a whole stands a much greater chance of being accepted by those who most effect the use of resources, namely, the physician. With greater physician acceptance comes a much greater probability of the health care delivery system achieving the desired outcome.

The actual computer program that formed the DRGs is known as AUTOGRP (AUTOmatic GRouPing System, pronounced autogroup) [Ref. 1:p. 23]. This program groups information by minimizing the distance (unexplained variance) between observations [Ref. 13:pp. 17-31]. As previously mentioned, length of stay is the dependent variable. The objective is to minimize the unexplained sum of squared

differences. And, of course, the smaller the unexplained sum of squared differences the more homogeneous the group; therefore, the smaller the difference the better is its ability to predict length of stay and supposedly resource use. [Ref. 1:p. 24]

According to Grimaldi and Micheletti, AUTOGRP attempts to minimize the overall sum of squared differences (TWGSSQ) by partitioning the population into subgroups based on diagnoses, procedures, sex, age, or other variables believed to cluster patients homogeneously, using a series of binary splits to subdivide patients based on a myriad of partitioning rules. The TWGSSQ is calculated as follows:

$$TWGSSQ = \Sigma\Sigma \ (Y_{ik} - \bar{Y}_k)^2$$

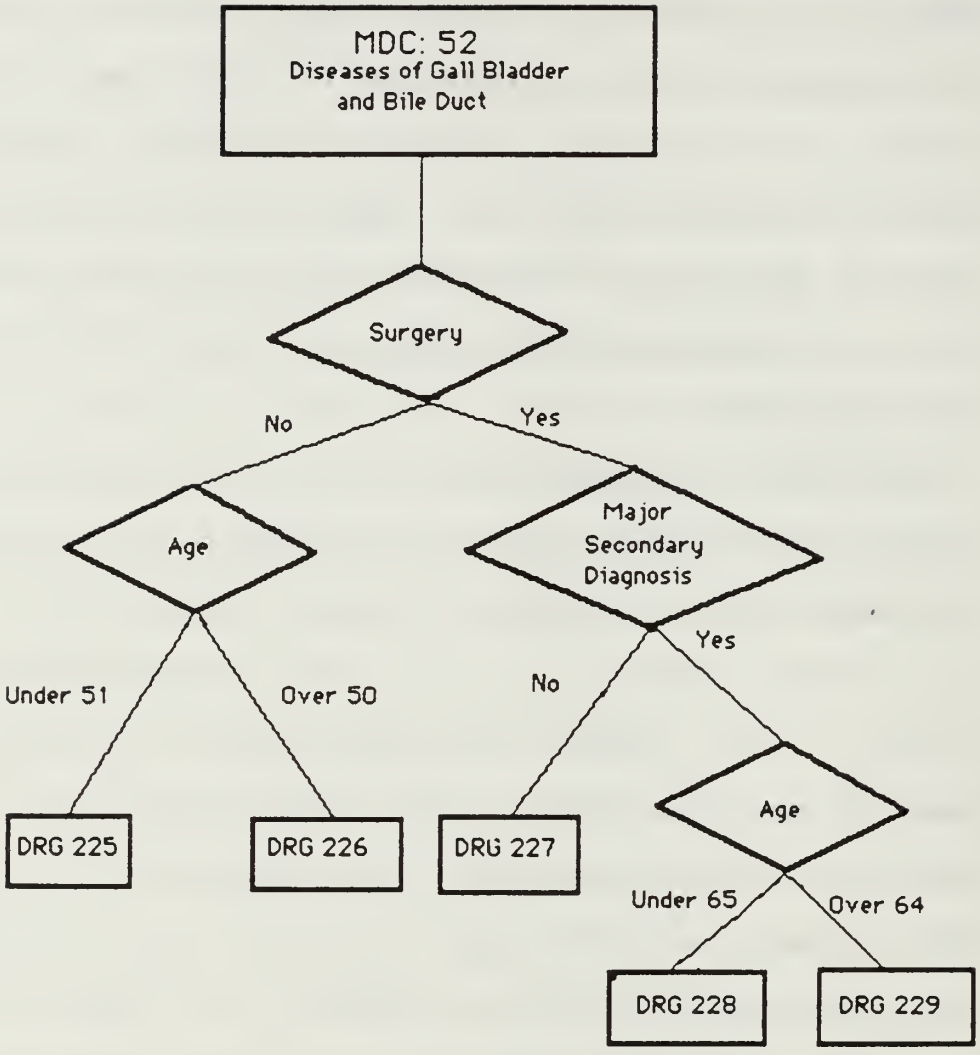
where $\bar{Y}$ is the average stay of patients in the **k**th group. Of course, the desired partition is one that yields as close to a zero group sum of squares as is possible. Groups themselves are broken down or split into subgroups based on whatever partitioning rules are employed. At some point it is necessary to stop forming subgroups because the statistical contribution is relatively insignificant or the number of subgroups becomes unmanageable. [Ref. 1:p. 25]

As briefly discussed above there have been two sets or generations of DRGs developed. The first set was derived from the medical records of over 700,000

patients. Diagnostic codes were based on ICDA-8. This first set consisted of 83 Major Diagnostic Categories (MDCs) and a total of 383 DRGs. Assignment to a category and subsequently to a subgroup (or DRG) was based on primary and secondary diagnoses, surgical procedures, and/or age [Ref. 1:p. 25]. Again, the principal diagnosis at discharge determined which MDC was assigned. Figure 2-6 represents the typical grouping of a MDC under the ICDA-8 DRGs.

The second generation of DRGs is based on data provided by the Commission on Professional and Hospital Activities (CPHA) in which a random sample was taken of over 400,000 medical records from a population of 1.4 million. The results of this sampling procedure are shown in Table II. With this newest generation of DRGs there are 23 major diagnostic categories that contain the ICD-9-CM DRGs, of which there are 470. Again, unlike the first generation of DRG assignments, the second generation is based upon specific surgical procedures and secondary diagnoses rather than the mere presence or absence of surgical procedures or secondary diagnoses.

What occurs then with the newest DRG assignment is that correspondence between the MDC and the ICD-9-CM is not necessarily one-to-one. For example, CPHA indicates ICD-9-CM diagnostic codes for the circulatory system are scattered among at least four and perhaps as many as



Source: Paul L. Grimaldi and Julie A. Micheletti, Prospective Payment The Definitive Guide to Reimbursement, (Chicago: Pluribus Press), 1985, Exhibit 3-1.

Formation of ICDA-8 MDC 52

Figure 2-6

TABLE II

MDCs AND ICD-9-CM CLASSIFICATION SCHEMES

Major Diagnostic Category	Number of Sampled ICD-9-CM	Number of Patients	DRGs
1. Diseases and Disorder of the Nervous System	Diseases of the Nervous System and Sense Organs	26,392	35
2. Diseases and Disorders of the Eye		9,589	13
3. Diseases and Disorders of the Ear, Nose, and Throat		21,456	26
4. Diseases and Disorders of the Respiratory System	Diseases of the Respiratory System	28,145	28
5. Diseases and Disorders of the Circulatory System	Diseases of the Circulatory System	44,342	43
6. Diseases and Disorders of the Digestive System	Diseases of the Digestive System	25,914	18
7. Diseases and Disorders of the Hepatobiliary System and Pancreas		9,086	18
8. Diseases and Disorders of the Musculoskeletal System and Connective	Diseases of the Musculoskeletal System and Connective Tissue	51,235	48
9. Diseases and Disorders of the Skin, Subcutaneous Tissue, and Breast	Diseases of the Skin, and Subcutaneous Tissue	10,336	28
10. Endocrine, Nutritional, and Metabolic Diseases and Disorders	Endocrine, Nutritional, and Metabolic Diseases and Immunity Disorders	7,910	17
11. Diseases and Disorders of the Kidney and Urinary Tract	Diseases of the Genitourinary System	9,666	32
12. Diseases and Disorders of the Male Reproductive System		4,564	19
13. Diseases and Disorders of the Female Reproductive System		5,879	17
14. Pregnancy, Childbirth and the Puerperium	Complications of Pregnancy, Childbirth, and the Puerperium	59,008	15
15. Newborns and Other Neonates with Conditions Originating in the Perinatal Period	Certain Conditions Originating in the Perinatal Period	47,209	7

TABLE II

continued

Major Diagnostic Categories	ICD-9-CM	Number of Sampled Patients	Number of DRGS
16. Diseases and Disorders of the Blood and Blood-Forming Organs and Immunological Disorders	Diseases of the Blood and Blood-Forming Organs Disorders	2,291	8
17. Myeloproliferative Diseases and Disorders and Poorly Differentiated Neoplasms	Neoplasms	5,552	15
18. Infectious and Parastic Diseases (Systemic or Unspecified Sites)	Infectious and Parasitic Diseases	2,374	9
19. Mental Diseases and Disorders	Mental Disorders	10,902	9
20. Substance Use and Substance Induced Organic Mental Disorders		4,786	6
21. Injury, Poisoning, and	Injury and Poisoning	6,245	17
22. Burns		145	5
23. Factors Influencing Health Status and Other Contacts with Health Services	Classification of Factors Influencing Health Status and Contact with Health Service (Supplementary Classification)	1,788	7

Source: The New ICD-9-CM Diagnosis Related Groups Classification Scheme: User Manual (New Haven, CT: Yale University Scholl of Organization and Management, December 1981). Table 3.2. Updated as per Health Systems International Manual.

eleven MDCs--1,4 to 9, 11 to 13, and 18. Also, the number of DRGs within each MDC ranges from 5 in MDC 22 to 48 in MDC 8. Again, the new DRGs use the body system (e.g., reproductive or nervous) as the primary factor for determining assignment within the MDC and to a specific DRG. Greater emphasis is now placed on grouping subgroups in some kind of clinical relationship to one another. Even greater physician and other professional input was used to develop the ICD-9-CM DRGs. [Ref. 1:p. 28]

Unlike the first generation, which used LOS data for final groupings, the second generation of DRGs reflect modifications suggested by cost data obtained from 330,000 records for patients discharged in 1979 from a total of 33 New Jersey hospitals [Ref. 1:p. 28]. There are a number of other distinct differences between these two generations of DRGs. Unique characteristics of the second generation include [Ref. 1:pp. 28-33]:

- initial partition for each MDC except 14,15, 17, 20, and 22 depends on the presence of an operating room (OR) procedure rather than the principal diagnosis;
- patients with an eligible OR procedure are partitioned into a group believed to be the most resource intensive depending on the surgical code reported;
- the ranking of qualifying secondary diagnoses and procedures in terms of resource consumption does not affect DRG assignment (i.e., approximately 210 DRGs are predicated on the presence or absence of comorbities or complications);

- the principal diagnosis of any patient who is initially assigned to MDC 5 and subsequently has an acute myocardial infarction is classified AMI regardless of the diagnosis;
- different and greater number of variables are used to form the ICD-9-CM DRGs;
- age is a criterion for grouping patients in approximately 55 percent of the ICD-9-CM DRGs, with 18 and 70 years being the critical ages;
- patients who die are placed into one two DRGs (123 or 385).

If one contrasts the two generations of DRGs, identifying the key grouping variables, as represented in Table III, it should be rather easy to discern the key differences.

Even though other partitioning variables (e.g., type of payer, admission diagnosis, type of admission, number of complications and comorbities, etc.) were analyzed using AUTOGRP none of these were employed in forming the ICD-9-CM DRGs since their contributions were not statistically or medically meaningful [Ref. 1:pp. 28-33].

The figure that follows is representative of the 23 MDCs and should aid in understanding how assignments are made to specific DRGs (See Figure 2-7). The entire 23 decision trees and Medicare titles for each DRG are contained in Appendix B. Figure 2-7, a decision tree, illustrates the DRG assignment for patients with a principal diagnosis that places them in MDC 7. The first partition in the surgical half of the MDC is predicated

TABLE III

KEY GROUPING VARIABLES FOR ICDA-8 AND ICD-9-CM DRGs

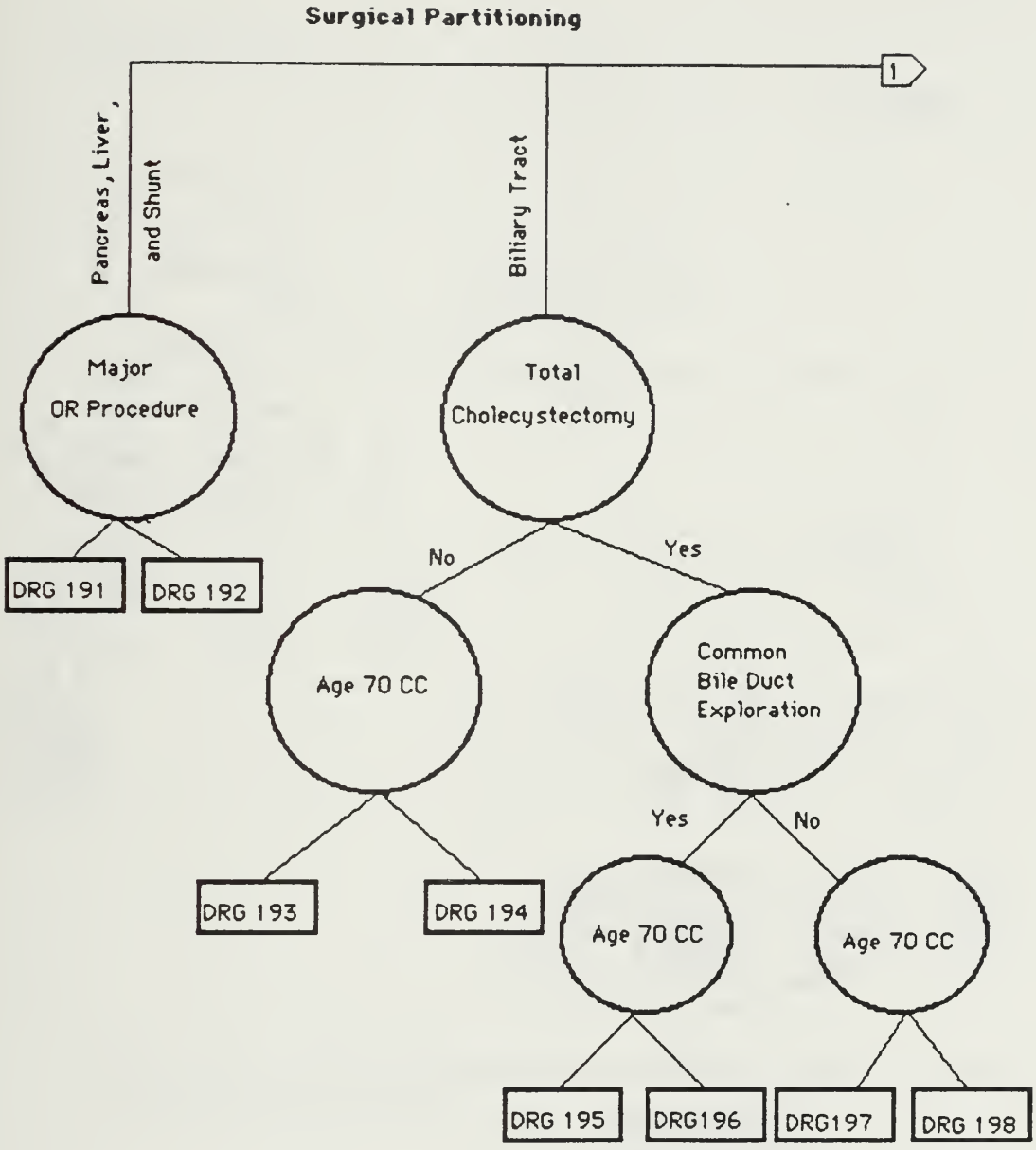
ICDA-8 DRGs	ICD-9-CM DRGs[b]
Principal diagnosis	Principal diagnosis
Secondary diagnosis	Operating-room procedure
Principal procedure	Age of patient at admission
Secondary procedure	Sex of patient
Age of patient	Complication or comorbidity
Clinical service[a]	Certain secondary diagnosis

a Used to form one DRG
b Most frequently used variables

Source: Paul L. Grimaldi and Julie A. Micheletti, Prospective Payment: The Definitive Guide to Reimbursement, (Chicago,Ill: Pluribus Press, 1985).

on the type of surgical procedure: pancreas, liver, shunt, or biliary tract, or exploratory diagnostic workup, or other OR procedure. When patients have more than one type of OR procedure they are usually assigned to the most resource-intensive DRG; intensity of resources normally decreases as one moves rightward along the surgical branch of the MDC [Ref. 1:p. 33].

Additional splits are required for surgical patients before they can be assigned to a DRG. If the pancreas, liver or shunt OR procedure is considered **major** then the patient is assigned to DRG 191; if not, he is assigned to DRG 192. If the biliary tract procedure does not require a total cholecystectomy then the subdivision is made based on whether the patient is over age 69 or a complication or comorbidity (labeled 70 CC) is present. If one or more of these three conditions exist then the patient is placed in DRG 193; otherwise, the patient is placed in DRG 194. On the other hand, if a "total cholecystectomy" is performed then a split is made at the "common bile duct exploration" looping variable and again at the "Age 70 CC" looping variables before assignment is made to one of four terminal DRGs: 195 through 198. Patients that have an exploratory diagnostic workup procedure are subdivided based upon the "malignancy" of their principal diagnosis. Patients with malignant conditions go to DRG 199 and those without a malignant



MDC 7: Diseases and Disorders of The Hepatobiliary System and Pancreas

Figure 2-7 (a)

MDC 7

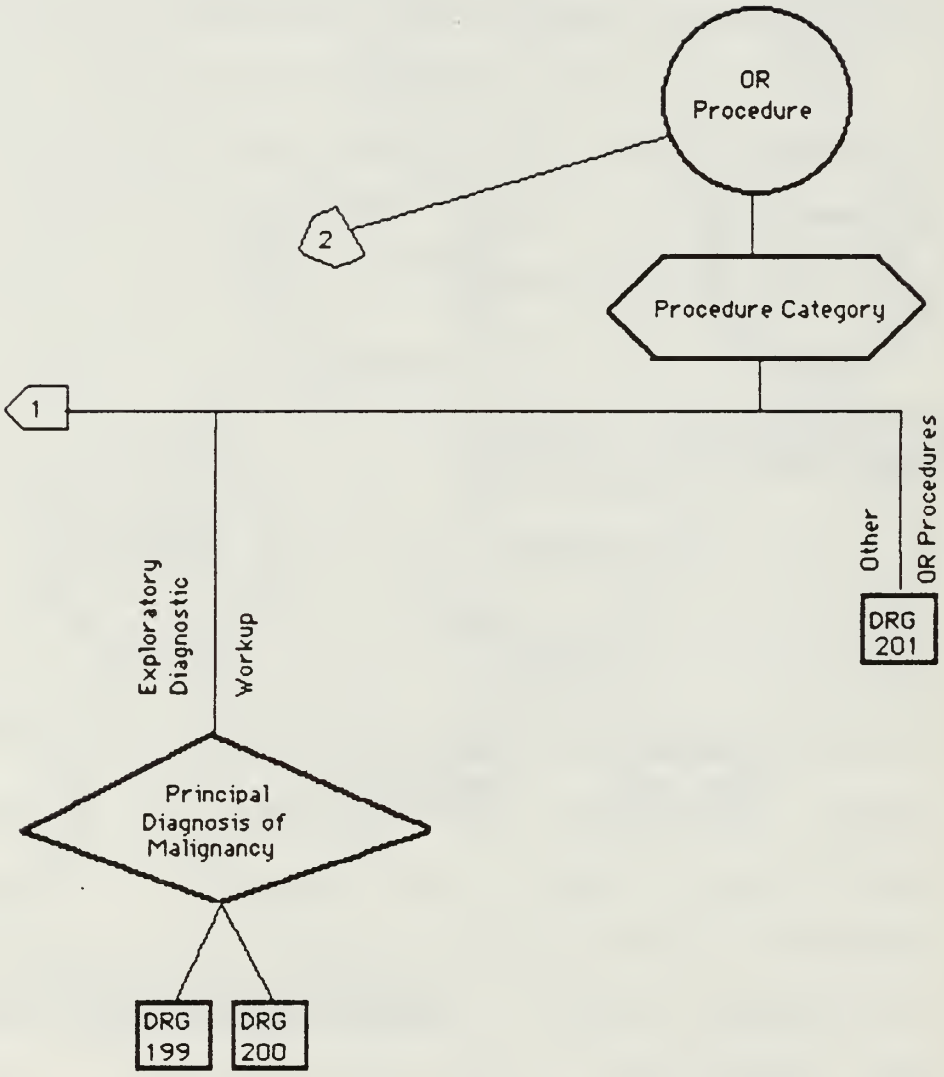
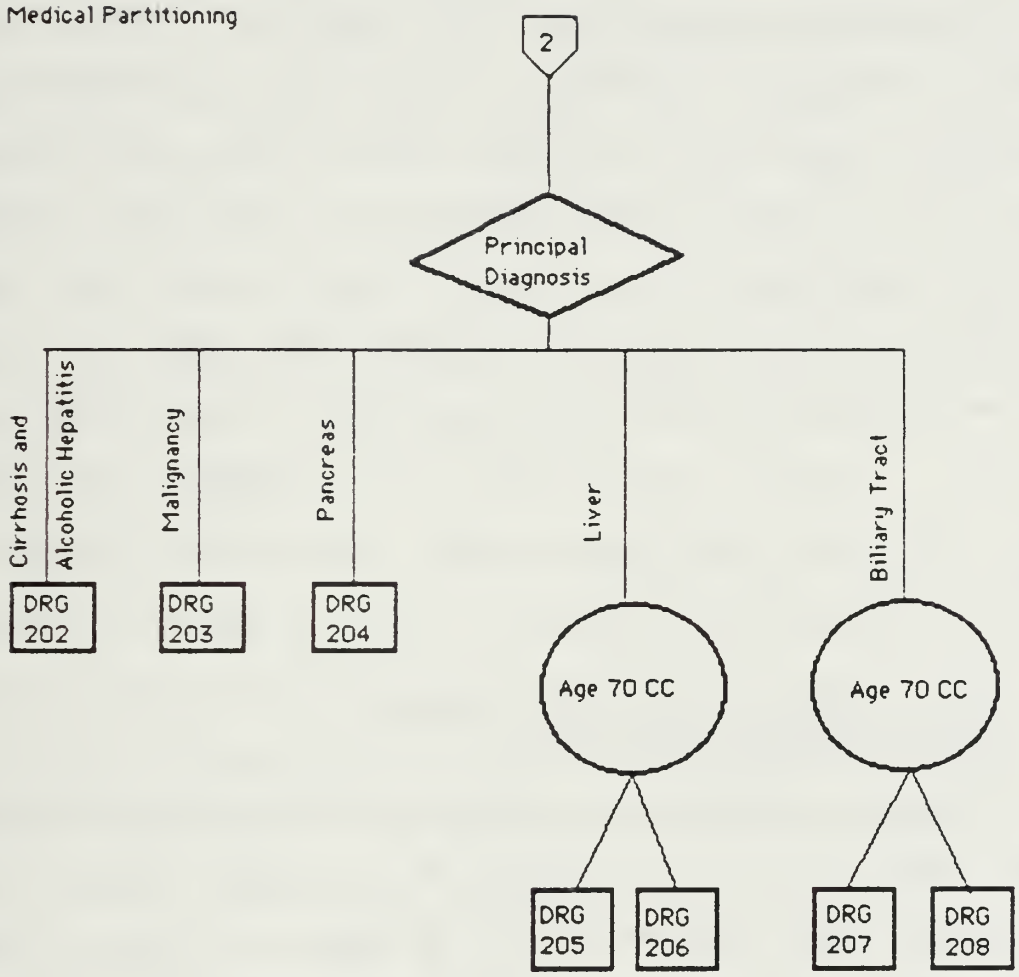


Figure 2-7 (b)



Source : The Revised ICD-9-CM Diagnosis Related Groups : User Manual (New Haven, CT : Health Systems International).

MDC 7: Diseases and Disorders of the Hepatobiliary System and Pancreas

Figure 2-7 (c)

principal diagnosis go to DRG 200. The terminal DRG 201 is used for all other diseases and disorders of the hepatobiliary system.

The medical partitioning of MDC seven assignments are somewhat easier to determine. The principal diagnosis--malignancy, pancreas, cirrhosis and alcoholic hepatitis, liver, or biliary tract--determines which DRG these medical conditions are assigned. Only in the later two principal diagnoses are they further subdivided and then by the looping variable of "Age 70 CC." Assignment in the MDC 7 medical partitioning runs rightward from DRG 202 to DRG 208. Accordingly, MDC 7 has eleven surgical DRGs and seven medical DRGs.

G. STATE PROSPECTIVE PAYMENT SYSTEMS: THE NEW JERSEY EXPERIENCE

Although a prospective payment system on the federal level (Medicare) is relatively new, several states have been using some form of PPS for a number of years. The first state rate-regulating law was enacted in New York in 1969 and followed in the 1970s by : Connecticut, Maryland, Massachusetts, Rhode Island, Washington, Wisconsin, and New Jersey [Ref. 3:p. 7]. Of these states, New Jersey has commanded the greatest amount of attention because of its success with not only a prospective payment system but also with one that incorporates the use of DRGs.

Because New Jersey's "experience" is similar in many respects (i.e., its ostensible objective of cost containment and use of DRGs in its PPS) to Medicare's, many health care analyst and governmental officials have thoroughly evaluated New Jersey's PPS, drawing valuable lessons learned so that these lessons could be appropriately applied to other state programs and Medicare [Ref. 14:p. 43]. Additionally, other third party payers are evidencing a keen interest in DRGs, PPS, and case-mix accounting, as a promising means of controlling and containing costs.

Because of the similarities between the Medicare and the New Jersey DRG/PPS systems and because of the involvement (funding) of the federal Health Care Financing Administration (HCFA) in the experimental New Jersey's DRG/PPS, it behooves one to briefly review the New Jersey "experience" before analyzing the federal DRG/PPS program. This review will assess the motivation for the program, its salient characteristics, the implementation results, organizational pressures and incentives, the financial and economic impact and finally discuss the major differences between New Jersey's program and the Medicare program.

The premise on which the New Jersey's Department of Health uses the DRG method of hospital reimbursement is on the belief that economic incentives can be used to

improve hospital efficiency and to contain health care expenditures. The primary impetus behind the coalition that passed the 1978 New Jersey legislation was not strictly cost containment as one might think but rather two other pressing issues: (1) the escalating and seemingly uncontrollable growth in bad debts, which were threatening the inner city hospitals' financial viability, and (2) the increasing differential between Blue Cross regulated payments to hospitals and the uncontrolled charges that private insurers faced [Ref. 14:p. 43]. The reimbursement reform intent was to provide greater financial stability to the New Jersey hospitals and to all commercial and private third party payers. Incidentally, one of the unique characteristics of the New Jersey experience is that PPS and the use of DRG case-mix reimbursement applies to all third party payers--governmental, commercial, and private [Ref. 15: p. 548].

As Sapolsky, Greene, and Weiner discuss, New Jersey state officials selected DRG-type prospective reimbursement methods based upon case-mix [Ref. 14:pp. 43-46]. Beginning in 1980, New Jersey implemented PPS using DRGs in 26 of the state's 93 general acute care institutions. Although it was New Jersey's intent when it passed the reimbursement reform initiative to pay only one prospective rate for each DRG, analyzes indicated that the cost variation among New Jersey's hospitals was quite great.

Even in retrospect it is impossible to ascertain what specifically accounted for these variations: real cost differences and/or unlike patients classified together. However, those hospitals who felt they were at a disadvantage were most acrimonious. As a result of their perceived disadvantage and incessant criticism of the DRG system, hospitals were granted relief in two forms. First, three classes were established for teaching hospitals because of the demonstrative correlation of cost and size. Second, the DRG rate itself was recomputed to reflect a blend of "each hosptial's own historical costs and its class average." [Ref. 14:p. 44] Thus, there are three factors upon which New Jersey's DRG rates are based [Ref. 15:p. 549]:

		Cost of Hospital-Based Physician Services
DRG Payment Rate for		**PLUS**
Direct Patient Care	=	Portion of Hospital's Own Non-Physician Cost
		PLUS
		Portion of Standard Non-Physician Cost

Effectively what the above modification does to the reimbursement system is to weaken the incentives for efficiency. The system designers had thought by allowing

hospital-specific costs in the reimbursement formula that in the "outyears" the revised DRG rates would reflect new efficiencies and that periodic "rebasing" would supposedly "ratchet down" costs statewide [Ref. 14:p.44]. As Sapolsky and Wasserman discuss, when periodic "rebasing" took effect in 1984 the "ratching down" of costs really meant an adjustment upward to reflect the increased cost (i.e., the base year of 1979 was replaced with cost data from 1982). Whatever new efficiencies were perhaps achieved by using DRGs, they were more than offset by an increase in new services and costs of technological improvements; the overall result of using the 1982 cost data "rebasing" is an increase of nearly six percent above regular inflation [Ref. 14:p. 44]. Moreover, the organizational affect of DRG prospective reimbursement on New Jersey hospitals has been significant. [Ref. 15:pp. 553- 554]:

- The quantity and type of information collected in DRG hospitals has expanded, with the development of sophisticated management information systems;
- Decision making in the DRG hospitals is now much more decentralized than in non-DRG hospitals;
- The importance of the medical records department in comparison with other hospital departments has increased dramatically;
- The medical staffs' role in managerial decision making has increased;
- The focus of hospital administrators has discernibly shifted from an input orientation to one of producing or managing outputs.

While it may be too early to draw comprehensive and irrefutable conclusions about the New Jersey experience in economic and financial terms there are several points worth discussing. One of the foremost of these points revolves around the question," How much more does it cost to operate a DRG system"? Certainly extra costs through additional employees and computer capacity have been incurred in implementing this system. May and Wasserman conducted a study, concluding that an extra $7.23 was added to each patient's bill so that this additional cost could be recouped. Also, the State of New Jersey in developing and administering the system incurred a total cost of $9.35 million of which $4.7 million was funded by the federal government. [Ref. 15:pp. 553-554]

Perhaps the most important question that needs to be answered is, "Does the DRG prospective reimbursement system result in a more efficient system"? or asked in a different manner, "Is the DRG system more cost beneficial than other reimbursement systems"? One study concludes (though tentatively) that each of the 26 institutions that started DRG reimbursement in the first year (1980) received on the average $2.3 million more than they otherwise would have received under the preexisting system [Ref. 15:p. 555]. Another study indicates the rate of increase in per capita hospital expenditures

during the first four years under the DRG system approximates the same trend line as that under the previous reimbursement system [Ref. 14:p. 44]. Again, it is still too early to draw definitive conclusions about the efficacy of DRGs, but what can be concluded is that New Jersey has succeeded in attaining one its explicit goals, if not exceeding it, namely, improving the financial solvency of its inner city hospitals (and also all other hospitals in the state). However, achieving this program goal may be at the expense of an improved reimbursement system, which is effective in containing cost [Ref. 15:p. 557].

Although there are many similarities and numerous comparatively minor differences between the New Jersey's and HCFA's Medicare reimbursement programs, there are several distinct differences, differences that make a one-to-one comparison difficult on some levels and impossible on other levels. First, as previously identified, New Jersey purposely and successfully spread the costs of inpatient bad debt and uncompensated care over all third-party payers. Second, New Jersey did this by requiring all third party payers to pay the hospitals' DRG rates, which effectively precludes cost shifts among payers [Ref. 15:p. 551]. Medicare does not! The significance lies in the fact that those hospitals which treat a greater percentage of the poor lose in the

reimbursement game. That is, Medicare does not reimburse for bad debts. Additionally, since DRGs and the PPS apply only to Medicare, hospitals can merely shift shortfalls for DRG patients to other payers. Having this "flexibility," of course, weakens the incentive for cost containment and efficient management.

Indubitably, the insurance companies will not sit idly by as these costs are shifted to them. They will most likely establish "preferred provider" arrangements using prospective DRG payment rates with individual institutions or lobby state legislators to adopt a state-administered all-payer program similar perhaps to the one in New Jersey [Ref. 15:p. 551]. As hospital rates continue to escalate and as additional costs are shifted to other payers (e.g., insurance companies and U. S. businesses) lobbying efforts will likewise increase. It would seem then inevitable that the federal political bargaining process could precipitate modifications to the Medicare program such that it too becomes potentially less effective as a cost containment mechanism.

H. OTHER CASE-MIX MEASURES

In addition to DRGs, there are other methods that employ case-mix measures. Briefly, we shall describe each of the more widely known case-mix measures, contrasting the differences and comparing the similarities.

The reason these "other case-mix measures" are discussed in this separate section is twofold. First, HCFA is concerned that it may be overpaying hospitals with a less complex patient mix, and second, lobbying efforts by those concerned with the continued financial viability of larger teaching facilities that treat more complex illnesses are mounting a persuasive drive for revisions in their payment rates so that they can recover the full cost of providing services to such patients [Ref. 3:p. 15]. The case-mix measures to be discussed are: Disease Staging, Patient Severity Index, Patient Care Units, and CHPA List A.

The first to be discussed is disease staging. One of the often heard criticisms of ICD-9-CM DRG method is that it fails to account for severity of illness, (i.e., the more severe a patient's condition the more resources he consumes in treatment). With the present DRG system patients can be classified into the same DRG but still consume considerably different amounts of resources. Disease staging, however, groups or clusters by severity of illness rather than by length of stay or cost. Disease staging does use the ICD-9-CM medical conditions as do DRGs; it does not use AUTOGRP for formation but rather **a priori** professional judgments of a 23-member physician panel [Ref. 1:p. 46]. This classification system, as well indicated by its name, normally bases

group formation on four stages of a specific organ/body system, stages which range from conditions of no complications or minimal severity to death. Table IV lists the 15 body-systems that are used in forming disease-staged groups.

Several studies compare the homogeneity of groupings in disease staging with those in DRGs. Grimaldi and Micheletti conclude that both of these classification systems explain a large amount of the sum of squared differences but that the DRG classification scheme performs better since it is constructed along statistical guidelines which minimize the unexplained sum of squared differences. [Ref. 1:p. 48]

The second type of case-mix measure is the patient severity index (PSI). Developed by researchers at John Hopkins University, the PSI also incorporates severity of illness into its grouping process, requiring evaluators and raters to review the patient's medical record upon discharge based upon seven variables [Ref. 3:p. 15]:

- stage of principal diagnosis,
- concurrent interacting conditions,
- rate of response to therapy or recovery rate,
- impairment remaining after therapy,
- complications of the principal diagnosis,

TABLE IV

BODY SYSTEM CATEGORIES FOR DISEASE STAGING

Body System Categories	Number of sets
1. Diseases of the Skin	25
2. Diseases of the Nervous System and Cerebral Vessels	57
3. Diseases of the Eye	13
4. Diseases of the Ear, Nose, Throat, and Sinuses	33
5. Respiratory Disease	32
6. Gastrointestinal Diseases	39
7. Hepatobiliary and Pancreatic Diseases	11
8. Diseases of the Circulatory System	33
9. Diseases of the Urinary Tract	11
10. Diseases of Male Genitalia	11
11. Diseases of the Female Reproductive System	35
12. Diseases of the Endocrine System	19
13. Hemapoietic and Reticuloendothelial Diseases	23
14. Musculosketal Diseases and Traumas	64
15. Newborns and Birth Trauma/Disease	2
	408

Source: Paul L. Grimaldi and Julie A. Micheletti, Prospective Payment: The Definitive Guide to Reimbursement, (Chicago, Il: Pluribus Press, 1985). Exhibit 3-8.

- patient dependence on hospital staff and other resources, and
- nonoperating room life support procedures.

Figure 2-8 represents the PSI matrix-type approach used by evaluators when classifying an inpatient's stay. A prerequisite for this system is to use trained evaluators, who assign composite severity scores based upon the seven variables identified above and the relative severity. Surprisingly, homogeneity of resource consumption in terms of charges, length of stay, and total costs indicates the PSI method of clustering patients is superior to any other method. [Ref. 1:p. 56]

The third case-mix classification system to be discussed is the patient care units (PCUs), which are based on time-and-motion studies that estimate the cost of over 600 clinical services [Ref. 1:p. 58]. These are somewhat similar to the "resource consumption profile" codes mentioned in the section on product definition and matrix organization. Blue Cross of Western Pennsylvania is developing a similar patient management category system but uses 50 disease-specific physician panels to cluster and separate diseases/medical problems [Ref. 3:p. 16]. Additionally, admitting diagnosis is factored into this classification scheme on the assumption that physicians "treat symptoms and suspected conditions," a fact

Characteristic	Levels 1	2	3	4
Stage of principle diagnosis	Asymptomatic	Moderate	Major manifestations	Catastrophic
Interactions	None	Low	Moderate	Major
Response to therapy — Rate	Prompt	Moderate delay	Serious delay	No response
Response to therapy — Residual	None	Minor	Moderate	Major
Complications	None or very minor	Moderate (less important than principal diagnosis)	Major (as or more important than principal diagnosis)	Catastrophic
Dependency	Low	Moderate	Major	Extreme
Procedures (non-O.R.)	Noninvasive diagnostic	Therapeutic or invasive diagnostic	Nonemergency life sustaining	Emergency life sustaining
Severity rating (circle one):	1	2	3	4

Source: Susan D. Horn, Phoebe D. Sharkey, and Dennis A. Betram, "Measuring Severity of Illness: Homogeneous Case Mix Groupings, Medical Care, vol. 22 (January 1983), p. 15.

Criteria to Construct A Patient Severity Index

Figure 2-8

not often borne out by the principal diagnosis [Ref. 1:p. 58].

The fourth and last of the case-mix measurements to be discussed is the CHPA List A. Although there are only 398 diagnostic groups, there are nearly 8,000 subgroups, which are divided into five age classes and cross tabulated by the presence or absence of surgery and the number (single or multiple) of diagnoses [Ref. 1:p. 58]. Needless to say, this method does not appeal to those interested in case-mix measurements because it fails to be easily manageable and to measure explicit resource consumption.

Figure 2-9 provides a good synopsis of the classification schemes discussed in this section as well as those discussed in previous sections. Even though one inpatient classification scheme may be superior in many respects to another it does not necessarily indicate it should be chosen in all applications. There is no universal panacea to case-mix measurement. Undoubtedly, case-mix measurements are in an early stage of development and must undergo numerous refinements before one is heralded as the solution to the cost containment problem, if ever.

I. CONTROVERSY OVER DRGs: LITERATURE REVIEW

As will be discussed in the next chapter on Medicare's prospective payment system, the Tax Equity and

Characteristic	ICD-9-CM	Staging	CPHA List A	ICD-8 DRGs	ICD-9-CM DRGs	Patient Management Categories	Patient Severity Index
Purpose	Iso-Disease	Iso-Disease	Iso-Length of Stay	Iso-Resource	Iso-Resource	Iso-Disease	Iso-Severity
Number of Classes	10,171	1,600 and up	Up to 7,960	383	487	(Not completed)	4 and up
Source Date	Medical Record or Discharge Abstract	Medical Record or Discharge Abstract	Discharge Abstract	Discharge Abstract	Discharge Abstract	Discharge Abstract	Medical Record
Objective or Subjective Classification Criteria	Objective	Objective	Objective	Objective	Objective	Objective	Subjective
Actual Utilization Used as Classification Criterion?	No	No	Yes	Yes	Yes	No	Yes
Classification Variables	Diagnosis	Medical Record: Diagnoses History & physical Lab & x-ray findings Progress notes Nursing notes Abstract: Discharge diagnoses Sex Discharge status	Primary discharge diagnosis Age Any secondary diagnoses? Any surgical procedures?	Primary discharge diagnosis Secondary diagnosis Primary surgical procedure Secondary surgical procedures Age Clinical service	Primary discharge diagnosis Operating room procedure Secondary diagnoses Age Sex Discharge status Discharge disposition	Discharge diagnoses Reason for Admission: Chief problem and/or elective procedure	Diagnoses History & physical Lab & x-ray findings Progress notes Nursing notes
Is Comorbidity Considered?	No — any secondary diagnoses present	Yes — secondary diagnoses classified into comorbidities or complications	No — any secondary diagnoses present	No — any secondary diagnoses present	Yes — specific major complications and comoroidities which influence length of stay	Yes — secondary diagnoses classified into comorbidities or complications	Yes — any interacting condition which influences length of stay
Is Iatrogenic Disease Discounted?	No	No	No	No	No	No	No
Are Deaths Omitted?	No	No	Yes	Yes	No	No	No
Are Outliers Omitted?	No	No	Yes, > 100 days	Yes	Yes	No	No
Are Discharges to Other Facilities or Against Medical Advice Omitted?	No	No	Yes	Yes	Yes	No	Yes
Affected by Diagnosis Coding Errors on Discharge Abstract?	No, for medical records; Yes, for discharge abstracts	Yes, for the computerized algorithm	Yes	Yes	Yes	Yes	No
Computerized?	No	Yes, for discharge abstracts	Yes, for discharge abstracts	Yes, for discharge abstracts	Yes, for discharge abstracts	Yes, two versions: (1) based on explicit RFA date elements; (2) based on normal discharge abstract date elements	No
Mutually Exclusive and Exhaustive?	Yes	No	Yes	Yes	Yes	(Not completed)	Yes
When Applied?	After sufficient data is gathered to specify a diagnosis	Can be applied at any time if sufficient data are available, but usually applied after discharge	After discharge	After discharge	After discharge	After discharge	After discharge

Mark C. Hornbrook, "Hospital Case Mix: Its Definitions, Measurement and Use: Part II, Review of Alternative Measures," *Medical Care Review*, vol. 39 (Summer 1982), pp. 102-103.

Fundamental Characteristics of Seven Patient Classification Schemes

Figure 2-9

Fiscal Responsibility Act of 1982 and the Social Security Amendments of 1983 took effect on 1 October 1983, requiring a PPS based on illness-specific conditions for all Medicare patients. The PPS uses diagnosis related groups (DRGs) as a classification method for these illness-specific conditions. The efficacy of DRGs as a mechanism for controlling costs and improving resource use is one of controversy. In this section we will examine and analyze recent literature and the various perspectives on this controversy and comment on what might lie ahead for DRGs.

Looking first at the positive comments on DRGs, the discussion focuses primarily on the hospitals' ability to maintain financial viability. Spiegel and Kavalier note that Rajani views the DRG system as one that provides a "pro-market discipline," as well as a "pro-competitive nature." [Ref. 16:p. 83] Fetter and Freeman see a decidedly positive aspect of DRGs in that they enable hospitals, whether they are not-for-profit or for-profit, to organize themselves--structure and process--in the manner of selling a product. Similarly, and perhaps one of the greatest advantages of the DRG system, is it provides a direct link between financial data and clinical information, allowing much better control over services (products) and costs to provide those services

[Ref. 5:pp. 41-54]. The goals of efficiency and effectiveness are better balanced, with greater emphasis given now to marginal analysis and measurement of the production relationship of inputs to outputs [Ref. 17:pp. 22-27]. The design incentive of the DRG system is for hospitals to operate more efficiently within the prospective reimbursement rates rather than merely passing costs through and onto Medicare as in the old program, which used retrospective reimbursement.

Proponents of the DRG system contend that its very design also requires the board, physician, administrator, and staff to become more closely aligned in selecting and pursuing common goals [Ref. 18:pp. 677-679]. This goal consensus supposes more efficient use of resources and a streamlined pursuit of agreed-upon objectives. Rather than working at cross purposes there is a greater incentive to work together. DRGs "appear" to provide incentives to organizational participants (including physicians) to move from what was previously an almost exclusively effectiveness model to one driven, in greater part by efficiency. The DRG system allows hospitals and its many participants to focus concomitantly on issues dealing with efficiency and effectiveness by using a "common product language" and making tradeoffs between these two models [Ref. 19:pp. 1-37].

There is only a paucity of physicians and administrators who maintain the DRG system will ameliorate the quality of care. Kaemmerer, for instance, believes DRGs enable physicians to better understand their practice patterns through comparison with other hospital physicians [Ref. 18:pp. 677-679]. Riddick thinks DRGs stimulate physicians to evaluate their "therapeutic customs and rituals," weighing better measures of effectiveness against resource use [Ref. 20:pp. 17-18]. Potentially, then, a hospital can sensitize its physicians to evaluate appropriateness of care not only in terms of absolute quality but also in the framework of cost effectiveness.

Though a considerable literature supports the DRG system, there are critics who vehemently hold that the DRG system is insidious and, in some instances, outright nefarious. One of the most outspoken of these critics is J. A. Meyer, of the American Enterprise Institute, who believes the DRG system is filled with " . . . exceptions, appeals, all kinds of loopholes, 467 categories that will probably turn into 967 categories . . . (and) . . . unfairness . . . " [Ref. 16:p. 82]. Because of the severity differences within the DRG cells, he feels the system as designed encourages hospitals to "skim the cream": the design incentives motivate hospitals to accept the most profitable cases and shun those that are

not. Meyer also criticizes the DRGs for being an incomplete cost control device and for failing to address admissions, preventive care, and physicians in its efforts to contain costs. That is, as designed the DRG system fails to address the totality and, while potentially optimizing subsystems, it is done at the expense of the system as a whole. Meyer's position seems analogous to that of Kerr who believes that the system is not designed to reward behavior it supposedly seeks [Ref. 21:pp. 769-783]. To be so, it would include all relevant health care delivery subsystems, particularly incentives for physicians.

As a cost-control method for curbing rising Medicare costs, the DRG system is seen by its critics to be a control mechanism that curbs primarily the quality of care and physician treatment patterns and incidentally, then only potentially, the cost of care. Again, DRGs seem to "deincentivize" the provision of optimal patient care by providing incentives for hospitals to seek the most profitable DRGs and to cut those that are unprofitable.

Critics maintain that Medicare (DRG) regulations contain numerous loopholes and gaps which permit manipulation and gaming of patients' diagnoses by hospitals trying to maximize their DRG reimbursement [Ref. 22:pp.

295-300]. Newhauser vividly underscores this point in a message he makes to physicians:

> How to play games with the DRG payment system may become a popular parlor pastime, and even though the "feds" have spent quite a bit of time playing this game too and thinking about preventive strategies, they will be only partly successful. Predictably, their lack of success will set the stage for still another approach to payment. [Ref. 16:p. 86]

Other criticism is levied at the DRG system for discouraging large capital investments, as fixed DRG rates do not permit this cost to be directly passed on and borne by the Medicare program [Ref. 16:pp. 86-87]. Regarding goal consensus and interactions among the board, administrators, and physicians, critics believe the DRG system will create an even greater adversarial relationship [Ref. 20:pp. 17-18]. Hospital administrators are largely motivated by the efficiency model while the physician is motivated by the effectiveness model. In fact, Bird thinks the physician's individual incentives are unaffected by the DRG system [Ref. 16:p. 87]. Since the DRG system as designed fails to reward desired physician behavior, hospital administrators may well find themselves countinuing in the role of cajoling medical staff support in an effort to elicit desired behavior.

Considerable opposition is found in the literature to the method in which DRGs are formed. Critics contend that homogeneity of patients is impossible and that there

is no such thing as the "average" patient [Ref. 16:p. 88] [Ref. 23:pp. 1195-1199]. Moreover, many express concern that DRGs fail to reflect variations in resources consumed and in disease/illness levels [Ref. 23:pp. 1195-1199] [Ref. 8:pp. 388-396]. Others contend length of stay is not an accurate reflection of resources consumed, or of the costs incurred. Hughes, in a letter to the Annals of Internal Medicine, attacks the DRG system on the grounds that, "There is a distinct failure to identifying multiple complications or comorbid conditions in individual patients." [Ref. 16:p. 89] In other words, hospitals are reimbursed for only one condition per patient, regardless how many might be treated.

The critics really lambaste the DRG system for the perceived affect it may have on lowering medical standards and in limiting the pursuit of technological advances [Ref. 25:p. 76]. Reimbursement calculations fail to adequately cover technological progression and provisions for innovations. In fact, a Presidential report indicates scientific advances are "likely" to be stifled [Ref. 26:p. 25-26] [Ref. 16:pp. 87-91].

Depending on where one stands, one can make a defensible and cogent argument for or against the DRG system. For example, on the issue of a more sophisticated and complete data base as a natural extension of DRG management, the critics say the costs are prohibitive

and the data itself of questionable value; whereas, the DRG advocates indicate the data base ensures accurate record keeping and insight into hospital activities far beyond today's capabilities [Ref. 20:pp. 17-18].

The debate over the efficacy of DRGs will continue for some years. As conclusive evidence becomes available, and as shortcomings are detected, refined procedures are and should be devised to make the DRG system both more efficient and effective, such as incentivizing physicians to demonstrate desired behavior, incorporating a severity of illness measurement criterion, and modifying Medicare regulations to permit reasonable technological advances and modest capital expansion. Moreover, all facets of the health care delivery system must be incorporated into the analysis in order to obviate suboptimization of the system for what might be optimal subsystems.

III. REIMBURSEMENT AND EXPENSE METHODS

A. INTRODUCTION

The discussion of Public Law 98-21 and the Medical Expense and Performance Reporting System for Fixed Military Medical and Dental Treatment Facilities (MEPR) presented below is not all inclusive. Rather, it attempts to provide a fundamental framework with which the reader unfamiliar with PPS and MEPR will be better prepared to understand the analysis and findings contained in this thesis.

B. MEDICARE'S PROSPECTIVE PAYMENT SYSTEM (PPS) UNDER PUBLIC LAW 98-21.

On April 20, 1983, President Reagan signed the Social Security Amendments of 1983 (P.L. 98-21). Title VI of this law, which applies to all short-term acute care hospitals, modifies the traditional retrospective method Medicare uses to reimburse hospitals. P.L. 98-21 replaces retrospective cost-based reimbursement with a prospective payment system. The PPS builds on methods and procedures used to establish case-mix indexes, cost weights, and target ceilings under the Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982 (P.L. 97-248) [Ref. 1:p. 99]. Unlike the cost-per-case limit established by TEFRA, the provisions of P.L. 98-21:

1. sever the traditional relationship between actual costs and the revenues generated by providing inpatient care to Medicare beneficiaries;

2. constitute the basis for establishing prospective prices for each of 470 DRGs;

3. assign financial risk for unfavorable variances between the cost of providing care and the predetermined DRG price to the hospital; and

4. permit the hospital to retain favorable variances between the cost of providing the care and the corresponding predetermined DRG price. [Ref. 3:p. 8]

Starting with cost-reporting periods after September 30, 1983, hospitals are paid prospectively-established rates for Medicare patients discharged from participating hospitals. Eventually, with certain exceptions, this new payment system mandates paying the same DRG rate to all participating hospitals.

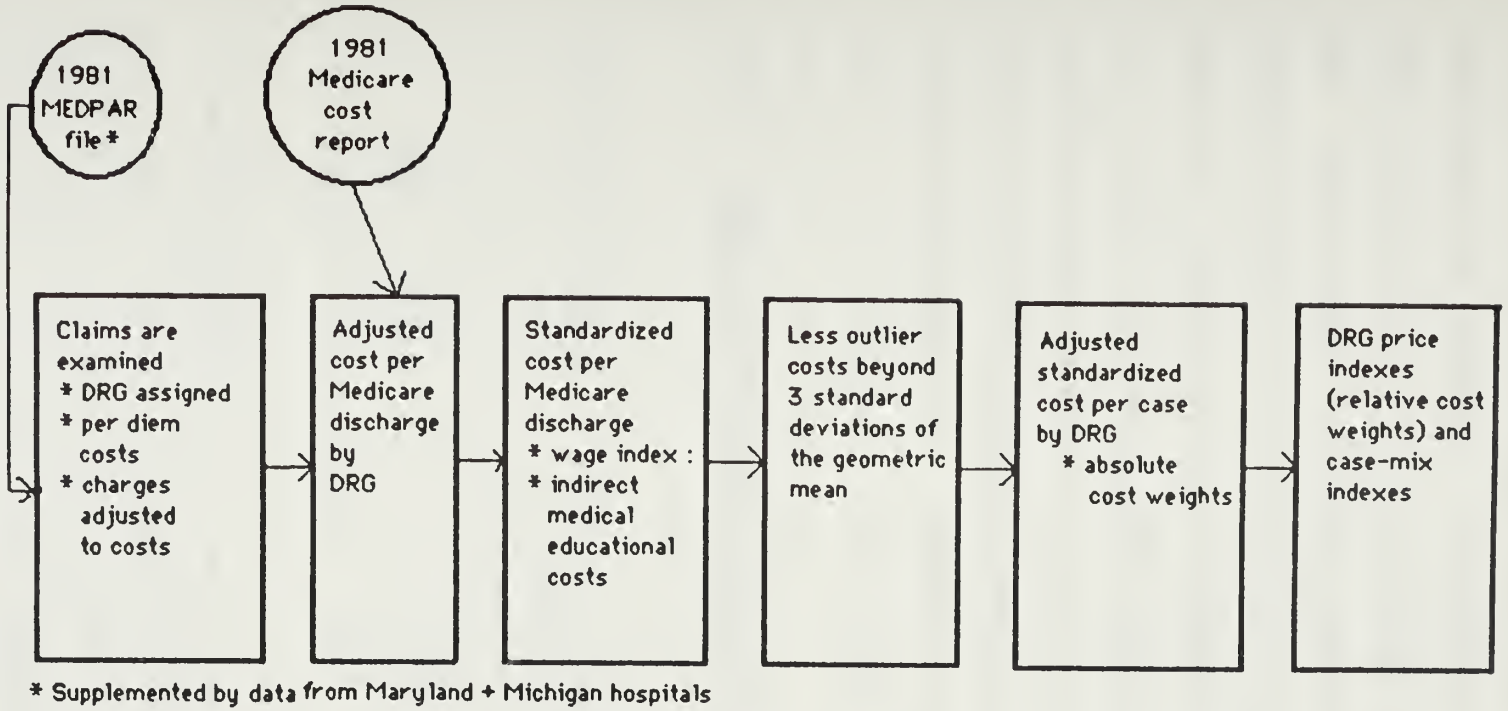
1. DRG Payment Determination

The basis of hospital reimbursement under the PPS is the discharge diagnosis of the particular patient. The payment for each DRG is established on the basis of three sources of data: the Medicare cost report, the Medicare discharge file, and the MEDPAR file. The Medicare cost report contains the cost information that hospitals submit to fiscal intermediaries in order to be reimbursed for care provided to Medicare patients. The Medicare discharge file indicates the number of Medicare patients admitted to a hospital in a given year. From

these two sources, the HCFA determines a national average cost per discharge. The MEDPAR file is a 20 percent sample of Medicare patient bills from short-stay hospitals. It is used to create the DRG cost weights, listed in Appendixes C, D, and E, and case-mix measures. These measures indicate the relative costliness of providing care for different Medicare patients in relation to the average cost per patient [Ref. 1:p. 115]. For example, if the cost per patient MEDPAR file indicates that the care of a patient in DRG 125 is 1.2 more costly than the care of the average Medicare patient, the DRG cost weight is 1.2. If the national average cost per Medicare discharge is $1,000, the hospital would be reimbursed for the care of a patient in providing service in DRG 125 at a rate of $1,000 x 1.2, or $1,200. The steps used by the HCFA to calculate DRG cost weights and case-mix measures are illustrated in Figure 3-1.

2. Transition Period

Congress provided a three-year phase-in period so hospitals would have an opportunity to adjust to the prospective system. During this transition period composite DRG payment rates are established for each hospital participating in the Medicare program. This rate is unique for each hospital during the transition period, but after FY 86 a standard national payment rate will be used to reimburse all hospitals. The composite



Source: Paul L. Grimaldi and Julie A. Micheletti, Prospective Payment: The Definitive Guide to Reimbursement (Chicago, Ill: Pluribus Press), 1985, Exhibit 5-5

Steps to Calculate DRG Price Indexes and Case-Mix Indexes

Figure 3-1

DRG payment rates, as illustrated by Figure 3-2, are made up of a federal portion and a hospital-specific portion. The federal portion is made up of regional and national average rates, which take into account whether the hospital is located in an urban or rural area. The hospital-specific portion is derived from unique hospital cost characteristics computed on a base year. In most cases, this base year is 1981. As the health care industry proceeds through the transition period, increased emphasis is placed on the federal payment amounts, with decreasing emphasis on a hospital's base-year costs.

PERCENTAGES USED TO CALCULATE PROSPECTIVE RATES, 1983-1986

Medicare Cost Reporting Period	Hospital-Specific Portion	Federal Regional	Federal National
1983	75.0	25.0	0.0
1984	50.0	37.5	12.5
1985	25.0	37.5	37.5
1986	0.0	0.0	100.0

For example, in the first year of the transition period (the fiscal year beginning October 1, 1983 (FY 84), and ending October 1, 1984) 75 percent of the payment rate for an individual hospital was based on a hospital's TEFRA target amount (hospital-specific portion), which is

adjusted for inflation by the hospital market basket increase plus a one percent technology factor. The remaining 25 percent is based on a regional DRG rate (federal portion). In the second year of the transition this ratio changes to a 50/50 split between the hospital-specific portion and the federal portion. The federal portion is divided between a regional rate and a national rate on a 37.5/12.5 respective basis. In year three, the ratio changes to 25/75 with the federal portion being equally divided between the regional and national rates. In the final year of transition (beginning October 1, 1986), 100 percent of the payment rate is based on a national rate [Ref. 2:p. 20].

3. Calculation of Prospective Payment Revenue

To determine "who gets what for services rendered" one must consider the following factors:

a. Adjusted Federal Standard Rate,

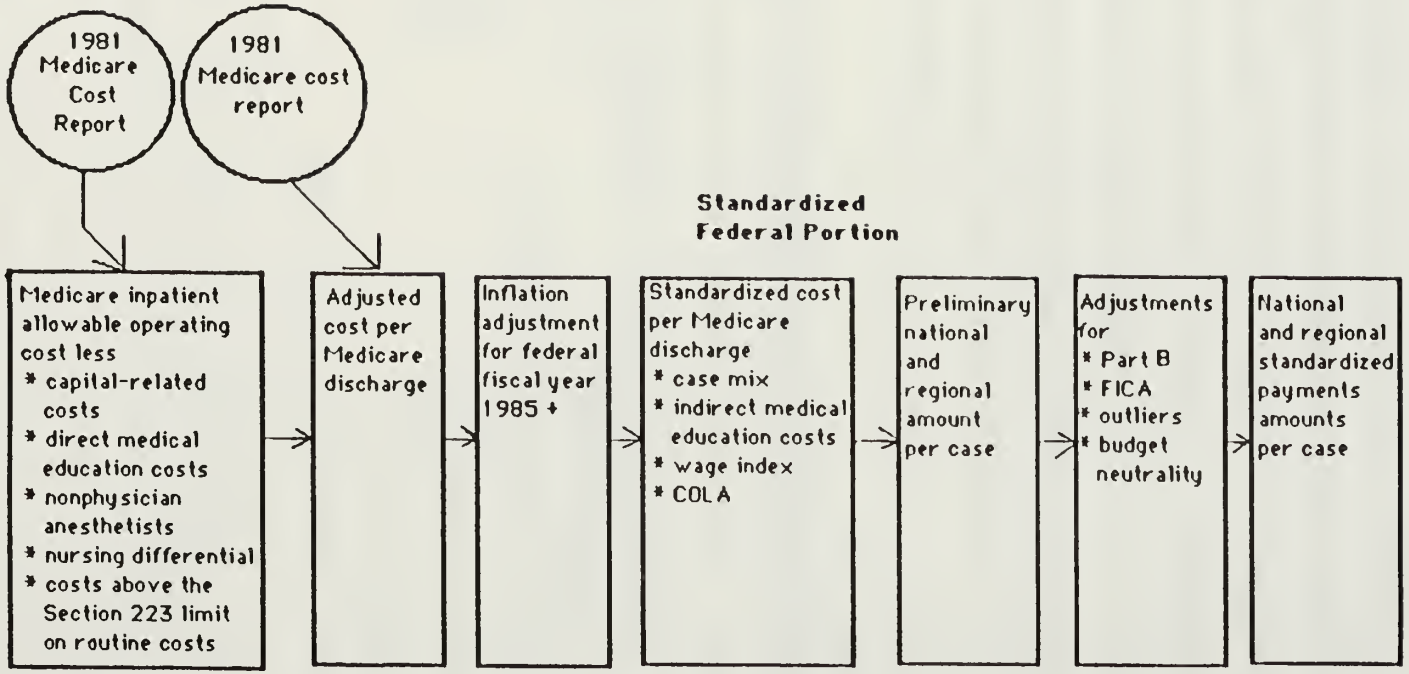
b. TEFRA Target Amount (hospital-specific),

c. DRG relative cost weights,

d. Regional Wage Indexes, and

e. The ICD-9-CM DRG to which the patient has been assigned.

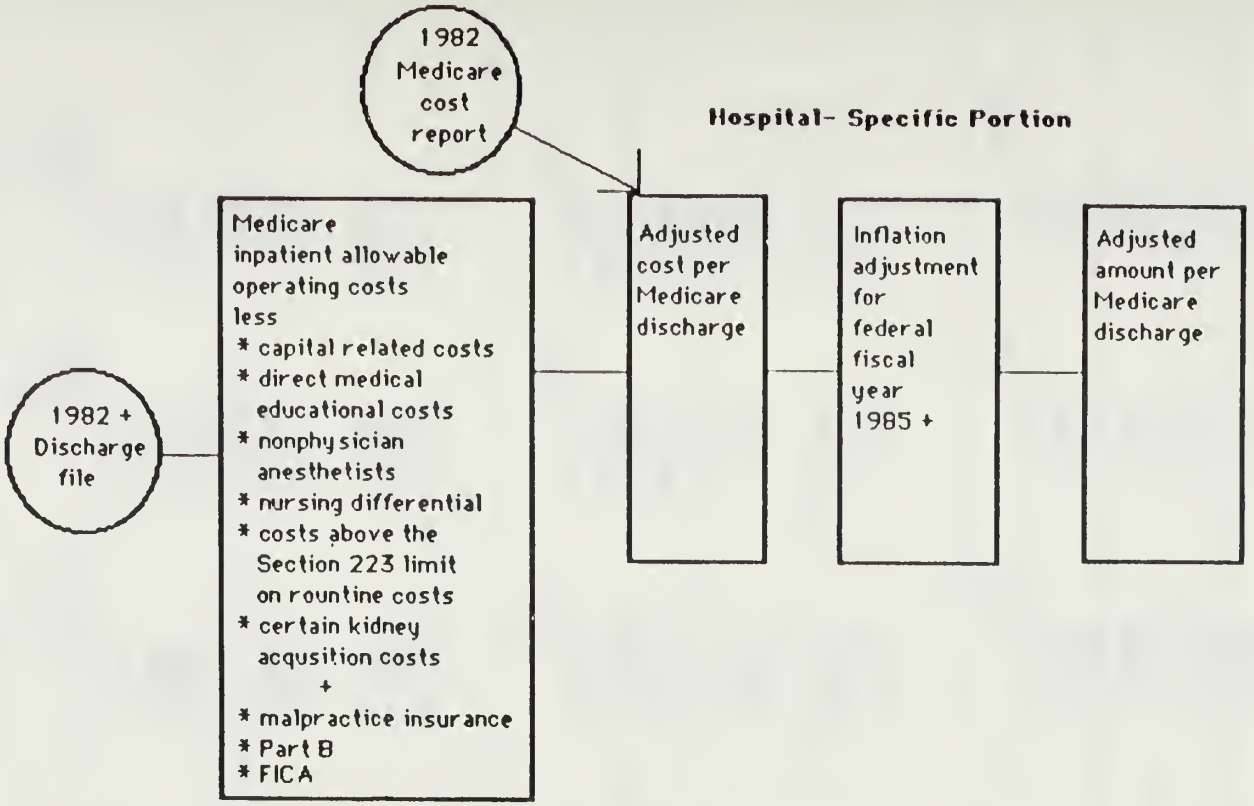
In general, as illustrated in Figure 3-2 and Table V, the federal standardized and hospital-specific amounts are combined to calculate an overall average payment for a hospital. The overall rate is then



Source: Paul L. Grimaldi and Julie A. Micheletti, Prospective Payment The Definitive Guide to Reimbursement (Chicago, Ill.: Pluribus Press), 1985, Exhibit 5-3

Steps to Calculate the Adjusted Standardized and Hospital-Specific Amounts per Case, FY 1985

Figure 3-2 (a)



Source: Paul L. Grimaldi and Julie A. Micheletti, Prospective Payment The Definitive Guide to Reimbursement (Chicago, Ill: Pluribus Press), 1985, Exhibit 5-3

Steps to Calculate the Adjusted Standardized and Hospital-Specific Amounts per Case, FY 1985

Figure 3-2 (b)

TABLE V

CALCULATION OF PAYMENT RATE FOR DRG 125, URBAN HOSPITAL X, WEST SOUTH CENTRAL REGION: FISCAL YEARS (FYs) 1984-1986 (Rounded in Dollars)

Component	FY 1984	FY 1985	FY 1986
Hospital portion:			
Adjusted base year cost	$3,096	$3,096	$3,096
Case mix index	-107	-107	-107
	$2,893	$2,983	$2,983
Target percent	•	x 1.06	x 1.124
	$2,983	$3,067	$3,252
DRG weight	x 1.6455	x 1.6455	x 1.6455
	$4,760	$5,047	$5,351
Hospital percent	x .75	x .50	x .25
Hospital amount	$3,570	$2,524	$1,338
Regional Portion:			
Standard amount for labor-related items	$2,146	$2,146	$2,146
Wage index	x 1.1119	x 1.1119	x 1.1119
	$2,3286	$2,386	$2,386
Standard amounts for non-labor-related items	+$573	+$573	+$573
	$2,959	$2,959	$2,959
Target percent	•	x 1.06	X 1.124
	$2,959	$2,959	$2,959
DRG weight	x 1.6455	x 1.6455	x 1.6455
	$4,869	$5,162	$5,473
Regional percent	x .25	x .375	x .375
Regional amount	$1,217	$1,936	$2,052
National portion:			
Standard amounts for labor-related items	$2,206	$2,206	$2,206
Wage index	X 1.1119	X 1.1119	X 1.1119
	$2,453	$2,453	$2,453
Standard amount for non-labor-related items	+$632	+$632	+$632
	$3,085	$3,085	$3,085
Target percent	•	x 1.06	x 1.06
	$3,085	$3,270	$3,468
DRG weight	x 1.6455	x 1.6455	x 1.6455
	$5,076	$5,38	$5,707
National percent	x .00	x .125	x .375
National amount	$0	$ 673	$2,140
Total payment rate	$4,787	$5,133	$5,530

Note * Base year costs are updated through FY 1984. Target percent equals inflation plus one percentage point per year

Source: Hospital Progress , October 1983.

adjusted by the hospital's regional wage index. Next, the overall average is multiplied by the appropriate DRG cost weight to obtain the payment for a given DRG.

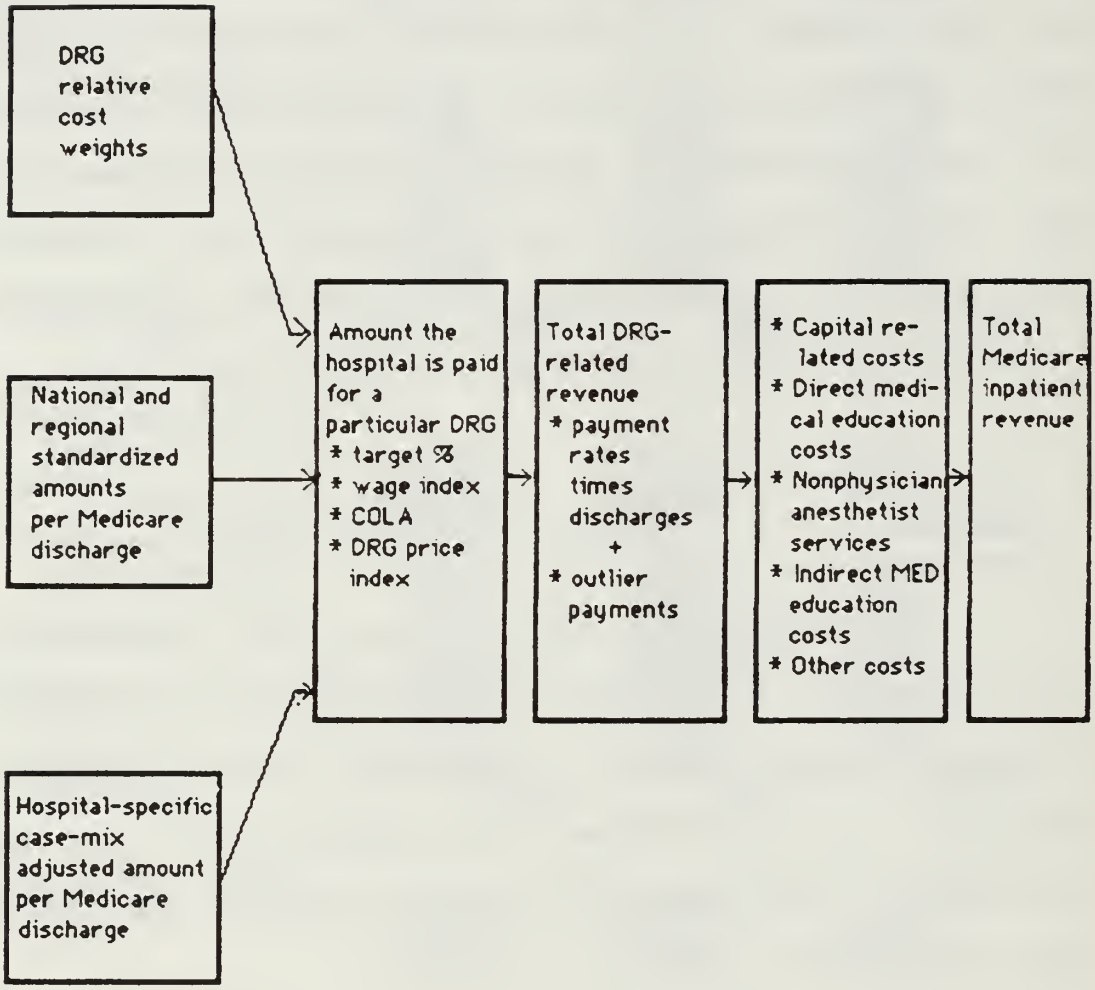
Once the appropriate DRG discharge rates have been determined, one can calculate the hospital's total Medicare inpatient revenue. As demonstrated by Figure 3-3, the total Medicare inpatient revenue is made up of a DRG inlier portion, an outlier portion, and a allowable cost portion. To calculate the total Medicare revenue for a hospital one simply sums the three cost inputs.

Total Medicare Revenue	=	Inlier Portion	+	Outlier Portion	+ Allowable Cost Portion

The inlier portion is that part of Medicare revenue which is included in the composite DRG payment rates discussed earlier. The total inlier portion is obtained by determining the appropriate rate per discharge in the hospital and then summing the results [Ref. 1:p. 108].

Total Inlier Revenue	=	(Federal Portion)	+	Hospital-Specific Portion)	x	DRG Wgt

The outlier portion, which is reimbursed on a retrospective basis, is that part of Medicare revenue which compensates hospitals for patients with unusually



Source: Paul L. Grimaldi and Julie A. Micheletti, Prospective Payment The Definitive Guide to Reimbursement, (Chicago, Ill.: Pluribus Press), 1985, Exhibit 5-11

Medicare Inpatient Revenue, FY 1985

Figure 3-3

long (day outliers) or costly (cost outliers) stays for a particular DRG discharge. Day outliers are patients whose length of stay exceeds the average (mean) stay for a DRG discharge by 22 days or 1.94 standard deviations, whichever results in a smaller number of days [Ref. 1:p. 108]. Cost outliers are patients whose charges adjusted to costs exceed the DRG payment rate by the larger of $13,000 or double the relevant DRG payment rate [Ref. 1:p. 109]. To obtain the total outlier revenue, one simply adds together authorized day and cost outlier costs.

Total Outlier = (Day Outlier + Cost Outliers)
Revenue

The last source of Medicare revenue results from allowable costs excluded from a hospital's prospective payment rates [Ref. 27:p. 20007]. These costs are reimbursed on a retrospective reimbursable basis and include the following:

* Capital-related Costs
* Direct and Indirect Medical Education Costs
* Nonphysician Anesthetist Costs
* Bad Debts
* FICA Costs
* Part B Costs

A more complete discussion of these special costs, as well as the cost foundation on which the federal and hospital-specific rates are based, is presented in Appendix A.

C. THE DOD'S MEDICAL COST ACCOUNTING REPORTING SYSTEM

1. Background

The evolution of the MEPR as a viable reporting system has evolved from "any reporting system is better than none" to a reporting system linked directly to expenses incurred by military treatment facilities (MTFs). Prior to the development of the MEPR the services primarily used two surrogate measures of output to report performance: (1) occupied bed days and (2) composite work units. Even though these two output measures might appear to be viable performance reporting mechanisms, they did little to aide managers in determining "how well the job got done." In 1975, as a result of dramatic health care cost escalations, coupled with an inadequate management information system in DOD MTFs, a new reporting system called the Uniform Chart of Accounts for Military Medical Treatment Facilities (UCA) was developed by a tri-service health care study group. The primary objective of UCA was to establish a management information system that standardized cost and performance reporting through the use of fundamental (#

of procedures), derived (cost per visit), and fiat (depreciation) measures. Since its implementation in the fall of 1978, UCA has remained intact with only minor revisions. Today, however, its name has been changed to the Medical Expense and Performance Reporting System for Fixed Military Medical and Dental Treatment Facilities.

2. The Medical Expense and Performance Reporting System for Fixed Military Medical and Dental Treatment Facilities

The information contain in this section was primarily extracted from the MEPR Manual, DOD 6010.13M; therefore, the discussion of the MEPR is best done in the context of a review of DOD 6010.13M [Ref. 28:p. 5-17]. The MEPR manual is composed of five chapters with each chapter, other than chapter one, representing integral elements of the uniform reporting system. The chapters are titled as follows:

Chapter 1 - General

Chapter 2 - Chart of Accounts

Chapter 3 - Manpower and Expense Assignment

Chapter 4 - Issues System

Chapter 5 - Reporting Requirements

a. Chart of Accounts

"Chart of Accounts" is the heart of the MEPR manual. Within this section of the manual a hierarchy of accounts have been constructed wherein all expenses and

corresponding workload data are grouped into six functional categories:

1. Inpatient Care
2. Ambulatory Care
3. Dental Care
4. Ancillary Services
5. Support Services
6. Special Programs

Inpatient Care is defined as health care which provides for the examination, diagnosis, treatment and proper disposition of inpatients. This functional category is a summarizing account that accumulates all inpatient operating expenses. It represents the total cost of inpatient care delivered in the MTF.

Ambulatory Care provides for the care, consultation, examination, diagnosis, treatment and disposition of both inpatients and outpatients treated by the various ambulatory care clinics. Like the inpatient care category, it is a summarizing account. It represents the total cost of ambulatory care.

The **Dental Care** functional account includes all the operating expenses incurred in operating and maintaining a dental center, a dental clinic, or a prosthetic laboratory.

Ancillary Services are defined as those services that participate in the care of patients by

assisting and augmenting the physicians and dentists in treating human ailments.

Support services are those services that are necessary to direct and support the mission of the medical facility. This account is somewhat like an overhead account in a manufacturing firm. It summarizes all operating expenses for support services, including depreciation.

The last functional category, **Special Programs**, represents those activities performed to support the MTF's military mission rather than direct patient care.

Functional categories represent the broadest category for aggregating costs and they appear highest on the accounting hierarchy. Each of the functional categories is further divided into summary accounts and subaccounts. The subaccounts are accumulated into their corresponding summary account. An example of this hierarchical arrangement appears:

Level I - Inpatient Care (Functional Category)

Level II - Medical Care (Summary Account)

Level III - Internal Medicine (Subaccount)

There are four elements that are generally common to each MEPR account regardless of the level of the hierarchy. The first element is termed "function." The function contains a description of the type of

activity characteristic of the particular account. The second element is entitled "costs." This element identifies the expenses that shall be included in the account. "Performance factor" is the third element of the account, and it identifies the uniform workload measure which is to be collected and used for evaluating or gauging performance. The final element is the "assignment procedure." This elements establishes the basis under which the account cost will be reassigned if applicable. [Ref. 28:p. 81]

Having knowledge of the chart of accounts structure and common generic elements, facilitates one's understanding of the flow of expenses in MTFs. In brief, each element of expense generated within the MTF is assigned to a particular subaccount (work center). The sum of the expenses in each subaccount represent the total expenses for each summary account, and the sum of the expenses in each summary account represents the total expenses for each functional category. The functional categories of Inpatient Care, Ambulatory Care, Dental Care, and Special Programs constitute final operating expense accounts, which are the final expense accumulation points in the systems. Ancillary Services and Support Services accounts are intermediate operating expense accounts whose expenses are reassigned to one of

the final operating expense accounts through the use of a stepdown allocation process.

b. Manpower and Expense Assignment

The purpose of the "Manpower and Expense Assignment" is to transform manpower, expense, and workload data collected by work centers into meaningful management reports. It has the objective of defining a basis for distributing the accumulated costs and work-months to the direct patient care and Special Program accounts. In other words, through the use of a sequential stepdown cost allocation process all subaccount, summary and intermediate expenses are placed in the final functional account responsible for incurring the expense or using the manhours.

The stepdown assignment methodology requires five sequential steps to be taken. They are:

1. manpower and data collection and processing,
2. assignment of expenses and workload recording,
3. pre-stepdown purification of expenses,
4. assignment of expenses to final operating expense accounts, and
5. post-stepdown purification of final operating expense accounts.

At the manpower data collection and processing stage two substeps are performed. First, one establishes what amount of full-time equivalent (FTE) work months are to be charged to each account. Next, one

determines the appropriate military personnel expense and the command, management, and administration expense each account should be charged.

Civilian personnel salary expenses for the command is calculated on a monthly basis. This expense consists of the amount of funds obligated due to the employment of each employee during a month. It includes, but is not limited to, basic salary, incentive and hazardous pay, government contributions to benefits, overtime, and termination pay. The salary expense for each employee is charged to the appropriate account based upon the distribution of FTE work months determined in the preceding paragraph.

Military salary expenses are charged in the same manner as civilian salary expense. The amount of expense to be distributed for each military member is derived from the DOD Annual Composite Standard Rates Table, which is published by the Office of the Assistant Secretary of Defense (Comptroller). The amount to be charged to each account is derived by multiplying the standard rate for a member's grade and military department times the allocated FTE work month. A more detailed discussion of the distribution of FTE work months and salary expense are provided in the MEPR Manual.

The assignment of expenses and workload recording has three phases. The first phase consists of assigning all non-personnel expenses to the intermediate and final operating expense accounts. These expenses come from the DOD Operation and Maintenance Appropriation (O,M&N), and they are usually related to program element eight, "Care in Defense Facilities." However, any expenses originating from other DOD program elements that are incurred in direct support of a MTF are also included. With the exception of indirect expenses, all non-personnel expenses are accumulated and summarized in the MTF's job order accounting system. Indirect expenses are allocated to indirect cost pools when it is difficult to identify the work center responsible for the incurring the expense. These cost pools may include both personnel and non-personnel related expenses.

The second phase of expense assignment deals with depreciation expense. As stated in the MEPR Manual, the costs for modernization and replacement of investment equipment is funded from Other Procurement Navy Appropriation (OPN) when costs are more than $5,000 and directly support a MTF. Depreciation is on a straight line basis using an eight-year moving average. In addition, the manual states these costs will be treated as an indirect expense during the stepdown reassignment

process rather than as a direct expense at the time of acquisition.

The final phase of expense assignment involves the compilation of the performance data. Such information is necessary for the assignment of intermediate operating expense accounts and indirect cost pools to final operating accounts.

The third step, pre-stepdown purification of expenses, allocates expenses not previously allocated in steps one and two. These expenses are allocated to Support Services and Ancillary Services accounts, provided there is no overhead included in the expense. If overhead is included in the expenses, these expenses are not allocated until one reaches step four in the assignment process. Upon completion of step three, performance data for each operating expense account and expense applicable to the operation of the MTF have been compiled.

The next step, assignment of expenses to final expense accounts, involves the reassignment of expenses from intermediate operating accounts (Support and Ancillary Services) and indirect cost pools (wards and clinics) to the final operating accounts. The result of this process is the identification of direct patient care expenses by subspeciality work centers and special programs.

The stepdown process begins with the allocation of expenses that have been assigned to the intermediate operating expense accounts. These expenses are allocated to other intermediate operating expense accounts and final work center subaccounts in which services were rendered. The prescribed allocation sequence and assignment of these expenses is outlined in the MEPR Manual. In general, however, the intermediate operating accounts that render the most services to other center (intermediate and final operating expense accounts) are assigned first, and the intermediate accounts that receive the most services from others are assigned last.

The assignment of indirect cost pools is the next phase of the fourth step. Indirect cost pools are pseudo-final operating expense accounts in that they have assigned to them the expenses from all Support Services accounts, except depreciation. These expense are assigned to the appropriate work center accounts based on a ratio of workload generated by each receiving account to the total workload of the indirect cost pool. After completion of this step, only the subaccounts of the final operating accounts contain expense data.

Step five, post-stepdown purification of final operating expense accounts, reallocates final operating expenses based on the performance factor or

other unit of service outlined in the MEPR Manual. In some cases, a MTF can reallocate these expenses based on some consistently applied local costing practice. Upon completion of the fifth step, the assignment of expenses and workload recording, expenses contained in each account can be aggregated into its appropriate summary accounts and functional categories.

c. Reporting Requirements

While there are eight reports created from the MEPR process, the primary vehicle used by activities to determine "how well they have gotten the job done" is the DOD Medical Expense and Performance Report. It provides managers with aggregate expense and workload data in three general areas: inpatient care, ambulatory care, and special programs.

IV. DESCRIPTION OF THE ANALYSIS

A. DATA

Data used in this thesis were provided by a Tri-Service DRG Study Group at the U.S. Army Health Care Studies and Clinical Investigation Activity, Fort Sam Houston, Texas, and by the Naval Medical Command, Washington, D.C. The sample population selected for analysis consists of three naval hospitals: Charleston, Long Beach, and Pensacola. The operational bed capacity of these three naval treatment facilities (NTFs) was 223, 166, and 135, with Charleston being the largest naval hospital and Pensacola being the smallest NTF. These three hospitals were selected as the sample population because:

* They have only minimal teaching responsibilities, if any;
* They are located in urban areas;
* Their beneficiary population appear similar; and
* The number of inpatient discharges at each NTF is relatively stable from year to year, yet offer somewhat different relevant ranges of activities.

There are two primary categories of data used in this thesis: (1) biometric data (inpatient discharges) and (2) expense data. The biometric data were provided by the Tri-Service DRG Study Group and the expense data by the Naval Medical Command. The biometric data contain

information for 60,408 inpatient discharges over a two-year period (FY83 and FY84) for three hospitals. The primary characteristics of each inpatient discharge were:

* Principal Diagnoses
* Secondary Diagnoses
* Bed Days
* Age
* Discharge Status
* Disposition Date
* Type of Admission
* Sex
* Disposition Code
* Military Treatment Facility

The authors also gathered information pertaining to inpatient discharges from the DOD's cost accounting reporting system, called the Medical Expense and Performance Reporting System for Fixed Military Medical and Dental Treatment Facilities (MEPR) in order to check the accuracy of the inpatient biometric data.

The historical financial (expense) data were also drawn from the MEPR. In total, the MEPR produces eight cost accounting type reports. The primary report used in this thesis to determine "how well NTFs got the job done" was the Medical Expense and Performance Report. The primary category of information drawn from this report was the amount each NTF expended for inpatient care in its

facility. Although we had access to four fiscal years (FY82 through FY85) of expense data and had hoped to conduct this analysis using three years of data, we only used cost accounting information from two fiscal years (FY83 and FY84). The reason for limiting the analysis to two fiscal years instead of three, revolved around the problem of attaining accurate and complete FY85 biometric data. The authors decided it would be better to have two years of data that were complete and accurate than have a third year of data that consisted of incomplete and inaccurate biometric data, which might lead to erroneous conclusions.

B. RESEARCH METHODOLOGY

Before discussing the specifics of our research methods, let us first briefly describe our research hypothesis. Initially, we had hoped that we might be able to support the hypothesis that NTFs were operated more efficiently than similar civilian facilities. Unfortunately, two facts were borne out as we progressed with the analysis: First, there are no similar civilian hospitals, that is, the organization--process and structure--of these two types of hospitals (civilian and naval) is markedly different. In fact, so different that a vis-a-vis categorical comparison between types of facilities is ostensibly impossible. Second, military

treatment facilities, particularly NTFs, have unique mission-driven operational and tactical requirements that effectively preclude a categorical one-to-one, civilian-to-naval hospital comparison of relative efficiencies. Also, admittedly (and perhaps somewhat presumably) the level of effectiveness (quality of care) between these two types of facilities is treated as if it were similar.

As we progressed with our analysis we realized that, despite the uniqueness of NTFs and their seemingly incomparable differences with civilian hospitals, there are striking similarities: They both use manpower, facilities, equipment, and supplies in a transformation process that provides products, which consist of a group of services, to patients. Accordingly, rather than making a categorical statement that these types of facilities are similar and that one is more or less efficient than the other, we decided to test in a rather direct and fundamental manner the research hypothesis that NTFs' inpatient care expenses are less than the funding which civilian hospitals would have received under Public Law 98-21.

The method used to test the null hypothesis that NTFs' inpatient care expenses were greater than or equal to the funding levels a civilian hospital would have received under P.L. 98-21 consists of four essential steps:

1. Determine the number and type of DRG discharges in each NTF for each fiscal year;

2. Determine the aggregate funding that each NTF would have received if they were being reimbursed under the parameters of P.L. 98-21;

3. Determine each NTF's actual inpatient care expenses for each fiscal year; and

4. Compare these actual expenses to the constructed Medicare reimbursement.

Step one, determining the number and type of DRG discharges in each NTF, was primarily accomplished by the Tri-Service DRG Study Group at Fort Sam Houston, TX. The authors requested that historical biometric data (inpatient discharge information) for each of the three naval hospitals be provided for FY83 through FY85. As requested, the Study Group's senior statistician compiled the information, assigning inpatient discharges contained in this data to appropriate DRG categories. After each inpatient discharge had been assigned to the appropriate DRG category, we determined the frequency of each DRG discharge and the total DRG workload. This was accomplished through the use of two computer software packages. We used SPSS-X to determine the frequency of each DRG, and Lotus 1-2-3 to ascertain the total DRG workload for each NTF. The results of step one are presented in Appendices D and E.

In order to accomplish step two, determining the amount of funding NTFs would receive if they were being

funded on the basis of the parameters of P.L. 98-21, we needed three essential pieces of information. First, we needed to know the frequency and grand total of each DRG discharge in each NTF for each fiscal year under analysis. This information was provided in the first step of the research method. The other two pieces of essential information needed to test the null hypothesis--HCFA cost weights and the national federal payment rate--were obtained from the Federal Register. A detailed discussion of HCFA cost weights and national federal payment rates is contained in Chapter III and Appendix A. The cost weights used in our thesis are presented in Appendices C, D, and E. The national federal payment rate used was $2837.91 per DRG discharge, as can been seen in our calculations in Appendices D and E.

The technique used to determine the revenue NTFs would have received under P.L. 98-21 is the reimbursement method that Medicare mandates to be used by all health care providers after fiscal year 1986. This technique uses a national standard payment rate, also known as average adjusted cost per discharge, in its calculation of Medicare reimbursement without regard to hospital-unique cost characteristics. As explained in the prospective payment section in Chapter III, P.L. 98-21 establishes a reimbursement method to be used in the transition years (FY84, FY85, and FY86), and a method to be used in the

years following the transition period. The former method uses a payment rate that is made up of a hospital-specific portion, a federal-regional portion, and a federal-national portion, and was determined to add little to this research. Therefore, we decided that, without loss of generality, we could use the reimbursement method specified for FY87 and subsequent years. To determine the amount of revenue a hospital would have received using the procedure outlined in step two, one must perform the following procedures:

(a) Determine the total number of inpatient discharges in each DRG category;

(b) Multiply the total frequency of each discharge by the cost weight for that DRG category;

(c) Multiply the results of procedures (a) and (b) by the national federal payment rate; and

(d) Sum the results of procedure (c).

$$\text{TOTAL MEDICARE REIMBURSEMENT} = \sum \left(\text{Number of DRG Discharges} \times \text{DRG Cost Weight} \times \text{National Federal Rate} \right)$$

The third step, determining each NTF's actual inpatient care expenses for the two fiscal years under study, required the extraction of expense data from the MEPR. Again, the MEPR is an expense-linked cost accounting system, which standardizes cost and performance reporting through the use of fundamental (# of

procedures), derived (cost per visit), and fiat (depreciation) measures.

The primary data drawn from the MEPR was the total inpatient care expense, clinician salaries, and the number of dispositions each NTF reported in its quarterly report, the Medical Expense and Performance Report. As discussed in Chapter III, inpatient expenses reported in the quarterly report represent the total cost of inpatient care delivered in a NTF. This being the case, we removed clinician (physician) salaries (both military and civilian) from the aggregate inpatient care expense totals since physician salaries are not usually included in the standard Medicare reimbursement rate. By backing out clinician salaries, we improved the relevance of our analysis in making comparisons of military and civilian health care data.

In addition to the adjustment made for clinician salaries, we also normalized FY83 inpatient care expenses to FY84 expense levels. This was done by multiplying the FY83 inpatient care expenses, less clinician salaries, for each NTF by nine percent, the growth rate of health care expenditures for that year [Ref. 29:p. 30]. The authors utilized this procedure so that FY84 cost weights and the federal reimbursement rates could be applied to FY83 expense data. Again, since there were no cost weights or federal reimbursement rates established for FY83, we

utilized this procedure so that FY84 cost weights and the federal reimbursement rate for FY84 could be legitimately applied to FY83 expense data.

The final step of the research method, comparing actual expenses to the funding NTFs would have received had they been funded on the basis of the parameters of P.L. 98-21, was accomplished through the use of the Lotus spreadsheet software program. The results are illustrated and discussed in the last section of this chapter.

Once the primary research question had been answered we extended the use of our research methodology to a comparison of inpatient care expenses with those in Veterans Administration facilities (VAFs). We used the same methodology as discussed earlier with one exception. We used a standard payment rate of $2775.00, the average adjusted cost per discharge in VAFs in FY84, instead of the national Medicare reimbursement rate of $2837.91 [Ref. 30:p. 25]. The method used to determine the VA average adjusted cost per discharge appeared to be consistent with the method used by Medicare. The VA average adjusted cost per discharge included direct, indirect, and education expenditures and stipends paid to residents [Ref. 30:p. 25]. Also, the VA removed physician salaries from the average adjusted cost per discharge.

Finally, in order to determine how similar inpatient discharges were in the sample population, we compared the

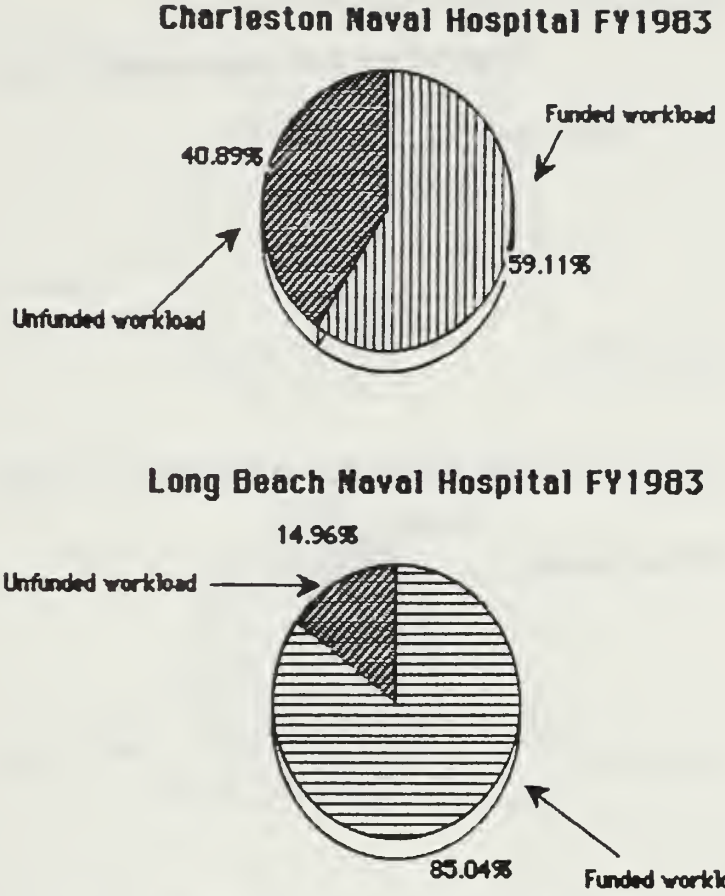
thirty most frequent DRG discharges in each NTF. We also compared the NTFs' and the State of California's thirty most frequent DRGs, using the same methodology.

C. FINDINGS

The results of the analysis are divided into three parts: (1) A comparison of inpatient care expense levels in NTFs to Medicare reimbursement levels civilian hospitals would receive under the parameters of P.L. 98-21 for the workload performed in the NTFs; (2) A comparison of NTFs'and VAFs' inpatient care expenses per fiscal year; and (3) an analysis of the similarity of DRG discharges between each NTF.

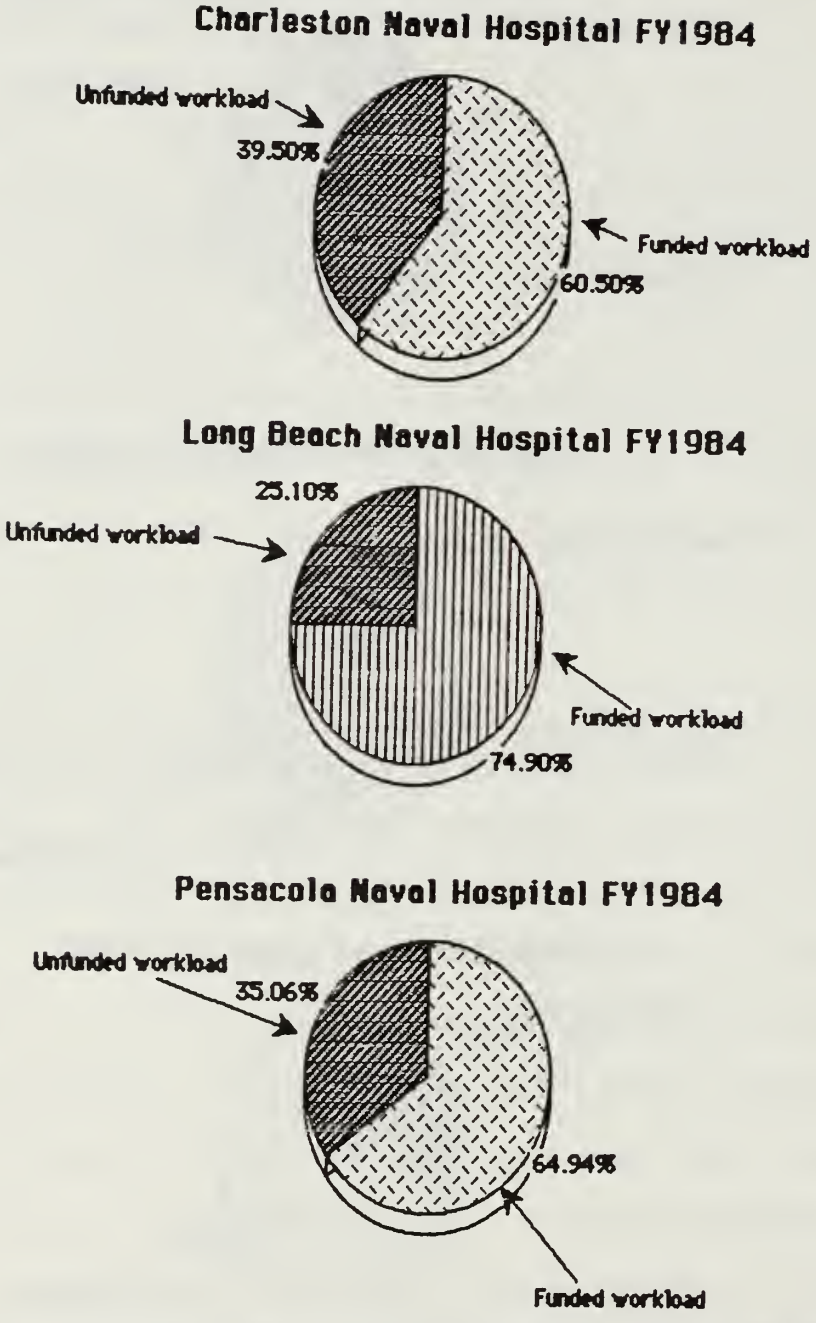
1. Comparison of Naval Treatment Facilities Expense Levels to Medicare Reimbursement Levels

First, consider the summary results of our analysis presented in Tables VI, VII, VIII, and Figures 4-1, 4-2, 4-3, and 4-4 (and supported in detail by Appendices D, E, and F). In reference to the figures, "unfunded workload" indicates the difference between what Medicare would have paid and what the NTFs actually expended to provide inpatient care. "Funded workload then is what the NTFs actually expended to provide inpatient care. Our analysis indicates that annual inpatient operating expenses in the sample population of NTFs is notably less than the funding they would have received under Medicare.



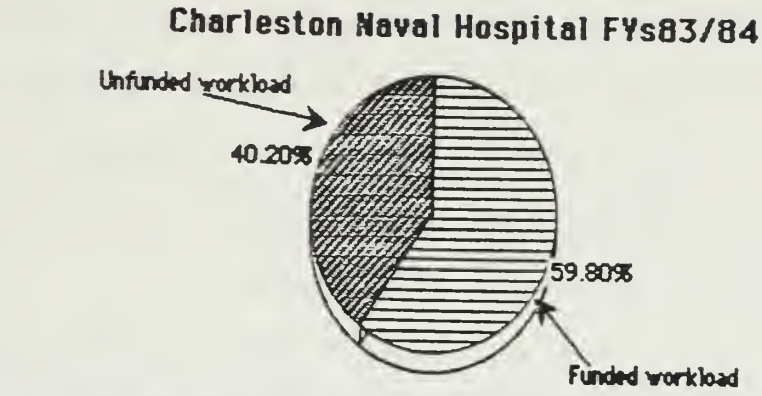
Percentage of Funded and Unfunded Workload for Charleston, Long Beach, and Pensacola Naval Hospitals for FY1983

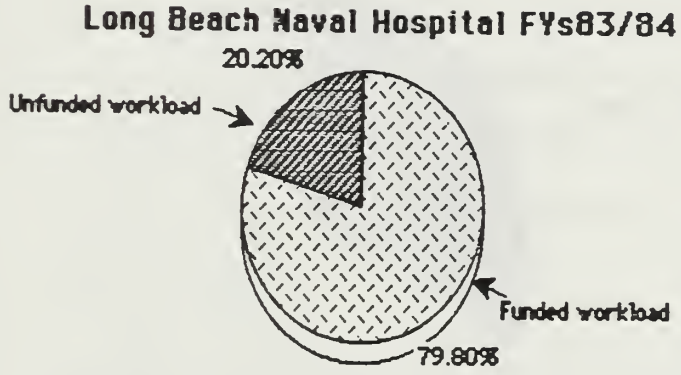
Figure 4-1

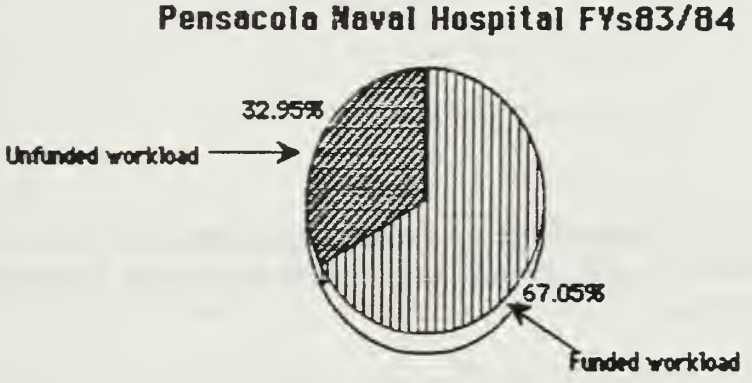


Percentage of Funded and Unfunded Workload for Charleston, Long Beach, and Pensacola Naval Hospitals for FY1984

Figure 4-2



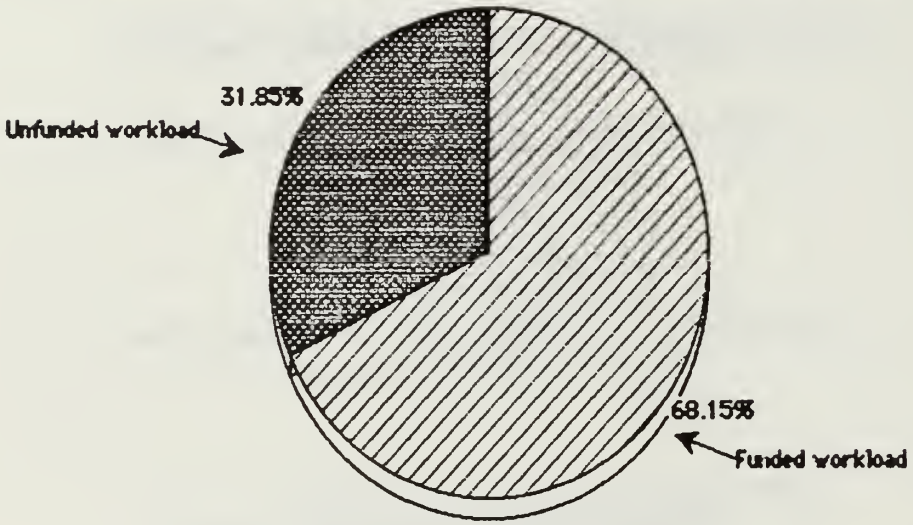




Percentage of Funded and Unfunded Workload for Charleston, Long Beach, and Pensacola Naval Hospitals for FYs 83/84

Figure 4-3

Total Percentage of Funded and Unfunded Workload



Aggregate Percentage of Funded and Unfunded Workload for Charleston, Long Beach, and Pensacola Naval Hospitals for FYs 83/84

Figure 4-4

As depicted in Table VI, if one uses Medicare reimbursement rates, HCFA cost weights, and DRGs to determine annual inpatient funding for Charleston, Long Beach, and Pensacola naval hospitals in FY83 and FY84, collectively they would have received an additional $36,145,661. The aggregate MEPR inpatient expense total for the three NTFs is $77,341,480, which is 31.9 percent below the Medicare reimbursement level of $113,487,141. In FY83, the aggregate inpatient expense total (illustrated in Table VII and Figure 4-1) for Charleston, Long Beach, and Pensacola naval hospitals is 30.1 percent ($16,913,745) below Medicare reimbursement levels; the FY84 total inpatient expenses (illustrated in Table VIII and Figure 4-2) is $19,231,916 (33.6 percent) below that year's Medicare reimbursement level of $57,289,691.

As shown in the previous illustrations, in both FY83 and FY84, Naval Hospital Charleston has the greatest difference between MEPR expense and potential Medicare reimbursement levels. If one uses the parameters of P.L. 98-21 to fund Charleston, it would receive an additional $9,870,566 in FY83 and an additional $9,295,626 in FY84. Charleston is followed by the Naval Hospital Pensacola with an unfunded workload of 30.8 percent ($4,375,815) in FY83 and 35.1 percent ($5,151,253) in FY84. The Naval Hospital Long Beach has the smallest difference between MEPR expense and Medicare reimbursement levels

TABLE VI

SUMMARY OF FYs83/84 AGGREGATE INPATIENT MEPR/MEDICARE DATA FOR CHARLESTON, LONG BEACH, AND PENSACOLA NAVAL HOSPITALS

NTF	Charleston	Long Beach	Pensacola	Aggregate
FYs83/84 MEPR	$28,507,786	$29,444,247	$19,389,447	$77,341,480
FYs83/84 MEDICARE	$47,673,978	$36,896,645	$28,916,518	$113,487,141
FYs83/84 Unfunded Workload	($19,166,192)	($7,452,398)	($9,527,071)	($36,145,661)
FYs83/84 Percent Unfunded	40.20%	20.20%	32.95%	31.85%

TABLE VII

FY1983 INPATIENT MEPR/MEDICARE DATA FOR CHARLESTON, LONG BEACH, AND PENSACOLA NAVAL HOSPITALS

NTF	Charleston	Long Beach	Pensacola	Aggregate
FY83 MEPR	$14,271,344	$15,164,893	$9,847,468	$39,283,705
FY83 MEDICARE	$24,141,910	$17,832,254	$14,223,286	$56,197,450
FY83 Unfunded Workload	($9,870,566)	($2,667,361)	($4,375,818)	($16,913,745)
FY83 Percent Unfunded	40.89%	14.96%	30.77%	30.1%

(illustrated in Tables VII and VIII). Nevertheless, it would receive additional funding in each fiscal year. In FY83, Naval Hospital Long Beach would receive an additional $2,667,361 and, in FY84, an additional $4,785,037.

Our analysis uncovered an inconsistent factor relating to inpatient discharge workload. There appears to be a consistent 2.5 percent difference between the number of dispositions reported in each NTF's Medical Expense and Performance Report, and the number of DRG discharges contained in the biometric data. We were unable to determine the exact cause for this occurrence. The Tri-Service DRG Study Group senior statistician suggested the reason could be because one set of the data is patient-specific (biometric data), while the other set of data (MEPR) is NTF-specific (aggregate data). We elected to use the biometric data for our calculations since it appears to represent a more accurate one-to-one, input-output relationship. However, had we used the other set of data (MEPR dispositions), it would not have significantly affected the findings.

2. Comparison of Naval Treatment Facilities to Veterans Administration Facilities

The comparison of NTFs' inpatient care expenses to VAFs' inpatient care expenses revealed findings consistent with those of the primary research question. If one uses

TABLE VIII

FY1984 INPATIENT MEPR/MEDICARE DATA FOR CHARLESTON, LONG BEACH, AND PENSACOLA NAVAL HOSPITALS

NTF	Charleston	Long Beach	Pensacola	Aggregate
FY84 MEPR	$14,236,442	$14,279,354	$9,541,979	$38,057,775
FY84 MEDICARE	$23,532,068	$19,064,391	$14,693,232	$57,289,691
FY84 Unfunded Workload	($9,295,626)	($4,785,037)	($5,151,253)	($19,231,916)
FY84 Percent Unfunded	39.50%	25.10%	35.06%	33.6%

FY84 VAFs' average adjusted cost per discharge, HCFA cost weights, and DRGs to determine annual inpatient funding for Charleston, Long Beach, and Pensacola naval hospitals in FY83 and FY84, these hospitals would have received more money. Specifically, as illustrated by Table IX, they would have received $15,667,975 in FY83 and $18,287,651 in FY84. Similar to the previous Medicare results, the largest difference between MEPR expense and potential VAFs expense levels was seen in the Naval Hospital Charleston, followed by Pensacola, and finally, Long Beach.

3. Analysis of the Similarity of Diagnosis Related Groups

A subsidiary finding was that the thirty most frequent DRGs in each NTF from FY83 to FY84 varied only 23 percent. In fact, when comparing the biometric data, each NTF experienced 77 percent of the same thirty most frequent DRGs in FY84 as it did in FY83. What this tends to point out is that the case mix is relatively stable from one year to the next within the same facility. Furthermore, this finding suggests that a stable beneficiary population, coupled with a consistent availability and use of hospital and physician services, would manifest itself in a rather homogeneous range of case mixes from one year to the next.

Moreover, although there are 470 DRGs, these thirty most frequent DRGs in FY84 account for 58.2, 56.6,

TABLE IX

SUMMARY OF FYs83, 84 AND AGGREGATE INPATIENT MEPR/VAFs DATA FOR CHARLESTON, LONG BEACH, AND PENSACOLA NAVAL HOSPITALS

NTF	Charleston	Long Beach	Pensacola	Aggregate
FY1983 DATA:				
MEPR	$14,271,344	$15,164,893	$9,847,468	$39,283,705
VAFs	$23,606,739	$17,436,953	$13,907,988	$54,951,680
Unfunded Workload	($9,335,395)	($2,272,060)	($4,060,520)	($15,667,975)
Percent Unfunded	39.5%	13.0%	29.2%	28.5%
FY1984 DATA:				
MEPR	$14,236,442	$14,279,354	$9,541,979	$38,057,775
VAFs	$23,010,415	$18,641,777	$14,693,234	$56,345,426
Unfunded Workload	($8,773,973)	($4,362,423)	($5,151,255)	($18,287,651)
Percent Unfunded	38.1%	23.4%	35.1%	32.5%
FYs83/84 DATA:				
MEPR	$28,507,786	$29,444,247	$19,389,447	$77,341,480
VAFs	$46,617,154	$36,078,730	$28,601,222	$111,297,106
Unfunded Workload	($18,109,368)	($6,634,483)	($9,211,775)	($33,955,626)
Percent Unfunded	38.8%	18.4%	32.2%	30.5%

and 55.1 percent of the total workload at Charleston, Long Beach, and Pensacola naval hospitals, respectively.

Next, in contrasting the thirty most frequent DRG in these three NTFs to those in California's hospitals, one finds considerable variation in the inpatient case mix. Using FY84 data, Charleston, Long Beach, and Pensacola naval hospitals' case mix differs from that of California's hospitals by 73, 70, and 70 percent, respectively, as depicted in Table X. This finding indicates the typical case mix which comprises the bulk of the workload differs considerably between the NTFs' and California's hospitals. If California's hospitals treat the "average-type" patient, one could surmise that the NTFs treat rather "atypical" case mixes. That is, the nature of NTFs services and products are somewhat different than that found in the civilian sector.

When contrasting the NTFs to one another, however, the case-mix variation is not as great as it is between the NTFs and California's hospitals. In fact, in FY84, of the thirty most frequent DRGs, 70 percent are common (i.e., only 30 percent are different) between Naval Hospital Charleston and Naval Hospital Pensacola, 47 percent are similar between Naval Hospital Long Beach and Naval Hospital Pensacola, and 57 percent are shared between Naval Hospital Long Beach and Naval Hospital Charleston.

TABLE X

THIRTY MOST FREQUENT DIAGNOSIS RELATED GROUPs IN THREE NTFs AND IN THE STATE OF CALIFORNIA HOSPITALS FOR FY1984

DRG Ranking	Charleston	Long Beach	Pensacola	California*
1	391	391	391	391
2	373	373	373	373
3	438	436	371	371
4	62	243	62	243
5	371	254	438	390
6	372	371	383	127
7	234	162	355	182
8	381	232	162	389
9	56	234	183	355
10	383	56	468	430
11	390	183	436	468
12	355	249	140	140
13	243	383	234	14
14	162	428	372	89
15	254	381	98	88
16	39	390	143	96
17	143	184	381	122
18	183	98	167	294
19	374	427	262	438
20	359	389	198	215
21	468	97	122	82
22	428	281	270	209
23	232	297	40	148
24	40	426	243	210
25	140	25	39	121
26	97	374	222	154
27	270	468	361	106
28	198	167	467	110
29	184	222	158	1
30	122	364	337	386

*Source: "Utilization and Charges By DRG For California: Individual Hopsital Discharge Data," Health Systems Agency 8: Mid-Coast, July 1985, California Health Facilities Commission.

What these findings primarily suggest is that the thirty most frequent (and potentially resource consuming) DRGs vary much more between the NTFs and California's hospitals than they do among NTFs. Accordingly, the findings support the assertion that inpatient case mix among NTFs is more similar than it is compared to a typical civilian hospital's inpatient case mix (i.e., naval hospitals treat somewhat different types/categories of inpatients than civilians, and these types of patients are common to naval hospitals, in general).

V. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

The focus of this research effort was to: (1) investigate whether a feasible and meaningful comparison could be made between NTF expenditures in a given fiscal year for inpatient care and the amount civilian hospitals would have been reimbursed by Medicare had they experienced a similar inpatient workload as that of NTFs using DRGs; and, (2) if possible, develop an actual model that would facilitate this comparison using real workload data. Our analysis suggests the following conclusions:

1. Biometric and actual expense data are available, which allow interested researchers to make relative and meaningful comparisons between NTFs and Medicare's reimbursement provisions. The Medical Expense and Performance Reporting System for Fixed Military Medical and Dental Treatment Facilities (MEPR) uses step-down procedures that capture all relevant inpatient expenses for each NTF. Because these inpatient expenses can be readily identified and are isolated from other facility operations and programs, one can make definitive statements concerning the aggregate facility inpatient costs. Additionally, if existing discharge summary data can be transformed into biometric data, such as the

authors were able to obtain for this analysis, one can determine constructed Medicare reimbursable amounts for actual NTFs' workload.

2. If compensated for inpatient care in a manner similar to civilian hospitals under Medicare, these three naval hospitals would have collectively received 31.9 percent more than their actual expenses, or over $6,000,000 each per year.

As discussed in Chapter IV, the MEPR expense data contrasted to Medicare reimbursable amounts, which again are based on the NTFs' workload, indicate that each of the three naval hospitals over the two-year period would have received from a low of 20.2 percent to a high of 40.2 percent more than their actual inpatient expenses, or, expressed in dollar amounts, from a low of $7,452,398 to a high of $19,166,192 more.

3. When the Veterans Administration's average adjusted cost per discharge, HCFA cost weights, and the ICD-9-CM DRGs are utilized to determine reimbursable amounts for the three NTFs used in this analysis, they would have received 30.5 percent more than their actual expenses, or approximately $5,650,000 each per year.

The VA has asserted in recent months that it provides inpatient care (almost) as efficiently as civilian hospitals. While our research does not address

whether the VA costs per DRG discharge and Medicare reimbursable amounts are approximately equal, the three NTFs used in this analysis would have received over $33,000,000 more than actual associated expenses had the VA average adjusted cost per discharge been used in calculating reimbursable amounts.

4. In analyzing the biometric data and comparing the thirty most frequent DRGs, the authors found there to be much greater similarity of case mix among the three NTFs, themselves, as well as within the same NTF from one year to the next (FY83 to FY84), than between the NTFs' and the State of California's thirty most frequent DRGs.

The analysis indicates that the thirty most frequent DRGs for each NTF varied only 23 percent from FY83 to FY84. In other words, using Naval Hospital Long Beach as an example, of the thirty most frequent DRGs in FY83 exactly 77 percent of these DRGs were among its thirty most frequent DRGs in FY84. This suggests that the case mix is relatively stable for a NTF from one year to the next, as would be expected for NTFs that serve a well defined beneficiary population having a consistent case mix. Of course, case mix is largely dependent not only upon patients' demands but also available medical/surgical services and physician capabilities. Undoubtedly, if the available capabilities changed so would the nature of the services and products; ergo, the case mix would differ.

The comparison among NTFs in FY84, however, revealed somewhat lower levels of similarity than that found at each NTF (from one year to the next). In fact, similarity of the thirty most frequent DRGs between NTFs ranged from a high of 70 percent between Naval Hospital Charleston and Naval Hospital Pensacola to a low of 47 percent between Naval Hospital Long Beach and Naval Hospital Pensacola. Although this finding indicates there is not as much similarity of case mix between NTFs as found at a single NTF from one year to the next, the variability is considerably less than that between the NTFs' thirty most frequent DRGs and that of the State of California's, which varied 71 percent. This, in turn, suggests that the case mix among NTFs is much more similar than that found between NTFs and the civilian sector.

Accordingly, one can deduce that the beneficiary population case mix for each NTF, itself, is more homogeneous than that among NTFs. Moreover, the beneficiary population case mix between the NTFs' and California's can perhaps best be characterized as being almost hetergeneous (i.e., case mix varies so much between the two that it appears as if the preponderance of inpatient costs are for considerably different types of cases).

The purpose of identifying the differences among NTFs, themselves, and, in particular, between themselves

and the DRGs for a large representative area such as California, is to demonstrate case-mix measurements (using DRG methods) provide a means, perhaps the best means, to make meaningful comparisons and statements about what it is hospitals produce. Although this conclusion is not surprising and intuitively acceptable, its significance lies in the fact that it enables a valid and relevant comparison of output among hospitals, even when they provide vastly different services and products.

5. Our analysis suggests that either NTFs are more efficient in providing inpatient care than that which is provided in civilian hospitals or that HCFA/Medicare reimbursement rates are too generous, or a combination thereof.

We cannot decisively explain the disparity between what NTFs would have received under Medicare's reimbursement provisions and what expenses were actually incurred. As with any analysis that depends upon non-experimental raw data, erroneous findings and conclusions may be drawn from data that are inaccurate, incomplete, or wrongly applied. The authors, however, have gone to great strides to ensure that the data employed for this analysis are highly accurate, complete, and applied correctly for testing the research hypothesis; therefore, the results of this analysis are preliminary but nonetheless suggest that

NTFs do in fact provide efficient inpatient care, perhaps even more efficiently than the average civilian hospital.

B. RECOMMENDATIONS

The following recommendations are based on this research effort.

1. Further analysis be conducted to test the research hypothesis.

Although the findings of this thesis are consistent and fully support the research hypothesis, the authors believe a follow-on analysis comprised of a larger sample population from several years with the most current cost weights would confirm the findings of this thesis.

2. Consideration should be given to incorporating DRG methods in assessing NTFs inpatient workload efficiency and productivity.

Since DRGs enable hospitals to identify and measure their products more effectively and accurately it seems only logical that a case-mix approach be employed for assessing hospital efficiency and productivity. Rather than utilizing exclusively such surrogate measures of output as occupied bed days, number of admissions, or number of operating room procedures, a case-mix patient classification system would provide a superior means of identifying what has been produced and how efficiently it has been produced.

3. Similar consideration should be given to incorporating DRG methods into the resource allocation and decision-making process.

Because DRG case-mix methods enable more precise product identification, resource allocation methods should incorporate funding levels that are predicated on what is actually provided or produced. In developing the resource allocation method, provision should be made for identifying controllable and uncontrollable inpatient costs and for designing incentives into the overall naval health care delivery system for effectiveness as well as efficiency.

4. The Naval Medical Command should consider development and refinement of the DRG patient classification system so that it can be tailored to meet its needs.

It behooves the Naval Medical Command to examine development of its own cost weights and average adjusted cost per DRG discharge because of the somewhat atypical case-mix groupings found in its NTFs. This is especially true if it plans to apply this mechanism to productivity and efficiency analysis and to the resource allocation process. Admittedly, this would be a major undertaking but the uses of such information are potentially profound.

5. Before broad and irrevocable commitments or decisions are made in the CHAMPUS Reform Initiative (CRI) the Department of Defense should consider that inpatient care costs appear to be consistently and considerably less than Medicare reimbursement amounts in three of its Uniformed Services Medical Treatment Facilities.

Again, based on the preliminary findings, NTFs appear to be able to provide considerably more inpatient care at similar funding levels than either civilian or VA hospitals. Because of this indication of efficiency within the DoD health care delivery system, it behooves DoD to maintain as much inpatient care "in-house" as is consistent with overall operational goals. In particular, DoD should strive to maintain "in-house" those case-mix groupings (DRGs) that it can treat less expensively than the contractor. Ideally, these would be the more complex and resource-intensive medical and surgical cases. However, whatever negotiated fixed price contracts for the CRI are effected, they should reflect the case-mix groupings that will remain predominantly an "in-house" responsibility.

APPENDIX A

PROSPECTIVE REIMBURSEMENT UNDER P. L. 98-21

INTRODUCTION

This appendix attempts to provide additional detailed information about "what does" and "does not" make up the federal and hospital-specific portions of Medicare reimbursement rates under Public Law 98-21. The intent of this appendix is not to make the reader thoroughly versed in Medicare prospective reimbursement. Rather, this explanation is intended to provide a foundation for those unfamiliar with Public Law 98-21 in order that an understanding of the analysis methods contained in the thesis might be better understood. Most of the information contain in this appendix has been extracted from the Federal Register [Ref. 27] and Grimaldi's and Micheletti's book, Prospective Payment: The Definitive Guide to Reimbursement [Ref. 1]

Federal Portion of the Prospective Payment Rate

The federal portion of the prospective payment rate is based on the average cost per Medicare discharge. These standardized costs, also referred to as adjusted payment amounts, are developed for each DRG in the PPS. They are

derived from the following cost-input factors:

* Base-Year Costs
* Inflation Adjustments
* Cost Standardization
* Case-Mix Adjustments
* Indirect Medical Education Costs Wage Adjustments
* Cost-of-Living Allowance Adjustments
* Budget Neutrality Parameters
* Patient and Cost Outlier Adjustments
* Medicare Part B Costs
* FICA Tax Adjustments
* Nonphysician Anesthetist Service

As discussed in Chapter III, the payment rate for each DRG discharge is established on the basis of three sources of data: the Medicare cost report, the Medicare discharge file, and the MEDPAR file. During the transition period, the federal portion of the adjusted payment amounts are based on regional and national average payment rates. The national rate is comprised on a single rate for urban areas and a single rate for rural areas. The regional rate is made up of 18 regional rates, one rate for each urban and each rural area in each of the nation's nine census divisions.

As the health care industry proceeds through the three-year transition period, Medicare prospective rates will increasingly depend on national rates and less on

regional rates. Eventually, the national rates for urban and rural areas will be the only adjusted payment rates used by Medicare to reimburse hospitals.

A. COST-INPUT FACTORS

The discussion of cost-input factors in the subsequent paragraphs attempts to better illustrate the cost foundation on which the federal rate is based.

1. Base-Year Costs: As Figure 3-2 illustrates the calculation of the standardized-payment amount begins with the establishment of allowable inpatient operating Medicare costs in the base year. Reported baseyear costs are taken from calendar year 1981 Medicare cost reports. These costs are subsequently modified as a result of the inclusion of authorized adjustments and exclusions under P.L 98-21. These costs include:

(a) capital-related items,

(b) approved direct medical educations programs,

(c) nonphysician anesthetist service,

(d) nursing differential, and

(e) routine costs in excess of Section 223 limits.

The net result is divided by the number of Medicare discharges during the cost reporting period to obtain the adjusted allowable cost per Medicare discharge.

$$\text{COST PER MEDICARE DISCHARGE} = \frac{(\text{Allowable Base-Year Medicare Costs}) + (\text{Total Adjustment})}{(\text{Medicare Discharges})}$$

2. Inflation Update: The updating (inflation) factor attempts to transform base-year costs into current-year dollar terms. Adjusted base year costs are updated for inflation expected to occur between the base and rate years. First, the costs are updated to the fiscal year ending September 30, 1983, so that cost reports covering different periods can be expressed in comparable dollars. Second, updated costs are increased, through September 1985, by the target percentage; the projected inflation in the hospital market basket plus an allowance to improve the intensity/quality of care is included in the standard payment rate. One should note, however, there is no retroactive adjustment made if there is variance between actual and projected inflation.

3. Cost Standardization: Standardization of costs is done to minimize the effects of certain factors on costs so a comparison of hospital performance can be made on the basis of product line (i.e., DRGs). Inflation adjusted cost per Medicare discharge are standardized for:

(a) differences in case mix among hospitals,

(b) indirect medical education costs,

(c) interhospital differences in wage levels, and

(d) cost-of-living differences for Alaska and Hawaii hospitals.

4. Case-Mix Adjustment: A case-mix index is used to adjust for interhospital differences in the types of inpatients treated. The index is derived from 1981 cost and billing data. Case-mix complexity is said to vary positively with the size of the index number. An index greater (less) than one indicates that the case mix is more (less) than average.

Case-mix indexes and DRG cost weights are based on information obtained from the Medicare Provider Analysis and Review (MEDPAR) cost reports. The MEDPAR file stores 20 percent of the bills that hospitals submit for payment for inpatient services rendered to Medicare beneficiaries. These sample bills contain the patient's age, length of stay, diagnosis, and surgical procedure. This clinical information is used by HCFA personnel to place Medicare discharges into the appropriate DRG using the the lCD-9-CM coding methodology.

After patients are assigned to the appropriate DRGs, the cost of their care is estimated. This involves transforming hospital charges into costs of services rendered. The information is obtained from the cost report a hospital completes and submits to Medicare for annual reimbursement determination. Cost reports contain the routine and special care per diem costs and

departmental cost-to-charge ratios needed to convert charges into the costs of services received by Medicare beneficiaries. Ratios and average costs derived from 1981 reports were used to calculate Medicare case-mix indexes and DRG price indexes. Table V illustrates the steps involved in calculating DRG cost weights and case-mix indexes.

The cost of treating a Medicare patient assigned to a DRG is calculated as follows:

(a) The cost of routine care is found by multiplying the number of days the patients spent in a regular room by the hospital routine cost per day;

(b) The cost of special care is found by multiplying the days spent in a special care unit by the hospital's special care cost per day; and

(c) The cost of ancillary care is found by multiplying the charge of the service by the applicable cost-to-charge ratio.

5. Indirect Medical Education Costs: An adjustment is made for the tests, procedures, and other indirect costs generated by the medical education programs. The ratio of full-time equivalent (FTE) interns and residents in approved programs to beds and the effects of teaching activity on operating costs are used to standardize indirect medical education costs. HCFA estimated the effect teaching activity on operating costs to be 11.59 percent.

The adjustment for indirect medical education costs is made by dividing the case-mix standardized cost

per Medicare discharge by a hospital-specific education multiple (EM), calculated as follows:

$$EM = [(\underline{Beds}/FTEs)/0.1) \times .1159] + 1.0$$

6. Wage Adjustment: The amount determined by the adjustment for indirect medical education cost is divided into labor and non-labor components, respectively. The labor-related portion is then standardized for wage differences among various hospitals.

7. Cost-of-Living Adjustment (Cola): For Alaska and Hawaii only, an adjustment is made for nonlabor costs due to the relatively higher costs of living in these two states. Similar to the labor component, nonlabor costs are divided by the applicable adjustment factor.

8. Budget Neutrality: P.L. 98-21 mandates that in fiscal years 1984 and 1985 the prospective payment system be "budget neutral." Specifically, Medicare is mandated not to spend any more or less than it would have under the 1982 TEFRA. If budget neutrality is violated, the federal share of the amount involved is spread proportionately among the DRGs.

9. Outliers: Additional payments expected to be made for outlier patients are subtracted from the standardized amounts developed thus far. Outliers are patients with unusually long (day outliers) or costly (cost outliers)

stays for a particular DRG. Day outliers are patients whose length of stay exceeds the average (mean) stay for a DRG by 22 days or 1.94 standard deviations, whichever results in a smaller number of days. Cost outliers are patients whose charges adjusted to costs exceed the DRG payment rate by the larger of $13,000 or double the relevant DRG payment rate.

10. Part B Costs. The standards are then adjusted upwards for services previously billed under Part 8 but now included in the DRG payment rates. This is accomplished by multiplying the standards by 1.0013.

11. FICA Taxes: Similar to Part 8 costs, an upward adjustment is made for the FICA taxes previously not paid by certain hospitals. The multiplier for 1985 was 1.0018.

12. Nonphysician Anesthetists: The costs of these services are recognized by reducing the national standardized amount by a specific percentage. In 1985, Medicare adjusted the national standardized amount by 0.32 percent and the regional standardized amounts by 0.42 percent.

B. FEDERAL RATE CALCULATION

The payment applicable to a particular DRG can be obtained by multiplying the overall standard rate, by the cost weight (or DRG price index) associated with the DRG, listed in Appendixes C, D, and E. The cost weights shown

in Appendixes D and E apply to all participating hospitals for each DRG. For example, if the national average adjusted payment was $2,000 for each Medicare discharge and the cost weight for a specific DRG discharge was 1.50, the amount of revenue the hospital would receive would be $3,000.

Hospital-Specific Portion of the Prospective Payment Rate

The hospital-specific portion of the prospective payment rate is based on a hospital's historical cost experience. For the first cost reporting period under the PPS, a hospital-specific rate is calculated for each hospital, derived generally from three cost-input factors: (1) base-year costs, (2) case-mix index, and (3) updating factor.

$$\text{HOSPITAL SPECIFIC RATE} = \frac{\text{(Base-Year Costs)} \times \text{Updating Factor}}{\text{(1981 Case-Mix Index)}}$$

1. Base Year Costs: Base-year costs for the hospital-specific rate are derived in almost the same manner as base-year costs for the federal rate. One additional adjustment, however, is required in the determination of the hospital-specific base-year costs. An adjustment is made for higher costs resulting from changes in accounting

principles initiated in the base-year and other actions designed to raise base-year costs.

Base-year costs for most hospitals are derived from cost data for the next to last year (or longer) preceding the first cost reporting period subject to the new PPS. In other words, the hospital-specific portion of the payment rate is estimated from the twelve-month Medicare cost period ending on or after September 30, 1982, and before September 30, 1983. Thus, if a hospital's reporting period began October 1, 1983, its base-year would be October 1, 1981 to September 30, 1982. With certain exceptions, once base-year costs have been established, they are generally applied throughout the entire three year transition period.

2. Case-Mix Adjustment: This adjustment is made so that case-mix changes occurring between the base and rate years can be fully recognized in calculating aggregate Medicare prospective payments. The adjustment cost per Medicare discharge is divided by a hospital's case-mix index.

3. Updating Factor: The updating factor attempts to transform base-year costs into current-year dollar terms. This being the case, case-mix adjustments are increased by a target percentage, which equals projected inflation plus an allowance to improve the intensity or quality of care in the institution. If budget neutrality is violated,

however, the target rate is adjusted so that Medicare spends no more nor less under the prospective payment system than it would have been spent under TEFRA.

Cost Exclusions and Adjustments

Certain historical allowable costs are excluded from the calculation of a hospital's prospective payment rates. Other historical costs are adjusted to make the base year inpatient costs comparable to operating costs covered by Medicare's prospective payment system. In general, the exclusions and adjustments fall under the following headings:

* capital-related costs
* direct medical education costs
* nonphysician anesthetists
* nursing differential
* malpractice insurance costs FICA adjustment
* Section 223 adjustment
* Part B costs

1. Capital-Related Costs: These costs are excluded from the prospective payment rates in FYs 84, 85, and 86,and they are reimbursed on a retrospectively-determined reasonable cost basis. These costs include net depreciation, leases and rentals, improvements, certain interest and insurance expenses, and taxes. In the case of investor-owned hospitals, these costs include a return-

on-equity capital. (Under Medicare's prospective plan, the return will be calculated by multiplying allowed equity capital by the rate of interest the federal treasury pays on loans from the Hospital Insurance Trust Fund).

Capital-related costs do not include repair or maintenance cost, interest expense incurred to borrow working capital, taxes paid on land or depreciable assets not used for patient care, insurance that does not apply to depreciable assets not used for patient care or the payment of capital-related cost if business is interrupted, and the costs of minor equipment that are expensed rather than capitalized. Additionally, one should note that hospitals are not permitted to change their capitalization and expensing-of-assets policies during the transition period.

2. Direct Medical Education Costs: These costs are also excluded from the prospective rates and are reimbursed on a retrospective, reasonable cost basis. Approved educational activities consist of formally organized or planned programs of study typically aimed at enhancing the quality of care in the institution. These activities may include nursing schools, radiologic technologist schools, and the medical education of other paraprofessionals. They do not include patient education, general awareness programs for the community, and on-the-job training.

3. Nonphysician Anesthetists: The costs of services rendered by certified nurse anesthetists (CRNAs) and anesthesiologist assistants (AAs) are excluded from the payment rates, and like capital-related and direct medical education costs, are reimbursed on a retrospective-cost basis. This exclusion is designed to eliminate the incentive that hospitals have to substitute higher-costing anesthesiologists for nonphysician anesthetists when cost of CRNA or AA services are in the rates. Since anesthesiologists can bill under Part B of Medicare, hospitals could enhance their financial position by having physicians administer anesthesia while CRNA or AA costs are left in the payment rates. The exclusion eliminates the potential "double payment."

4. Nursing Differential: TEFRA abolished the nursing salary cost differential for general inpatient routine services for cost reporting periods on or after October 1, 1982. Thus, these costs are removed from the base year in order to establish the prospective payment amounts.

5. FICA Adjustment: Some hospitals did not pay social security taxes during the base period, but they were required to pay them beginning January 1, 1984. To recognize this legally mandated increase in compensation cost, an appropriate amount is added to the reported base-year cost.

6. Section 223 Adjustment: Since the mid-1970s Medicare has imposed a limit (Section 223) on reimbursable per diem costs for general impatient routine care. Costs in excess of the limit are excluded from the calculation of the standardized payment amounts.

7. Part B Costs: Prospective payment rates are intended to cover all costs associated with covered inpatient care furnished to Part A beneficiaries, except physician services. Prior to P.L. 98-21 many nonphysician services furnished to inpatients were billed under Part B rather than Part A. For the most part, the new law prohibits this practice for services rendered after September 30, 1983. In other words, the payment rates represent full payment for all covered nonphysician inpatient services. These services must be supplied either directly by the hospital or another entity under arrangement made by the hospital. In order to compensate for costs formerly billed under Part B, reported base-year costs are adjusted upward by a specific target percentage.

HEALTH CARE PROVIDER EXCLUSIONS

Under P.L. 98-21 certain types of providers are not subject to the prospective payment system but will continue to be paid on a reasonable cost basis. Some of the types of excluded providers are:

* children's hospitals,

* long term hospitals with an ALOS greater than 25 days,

* sole community hospitals (SCH)

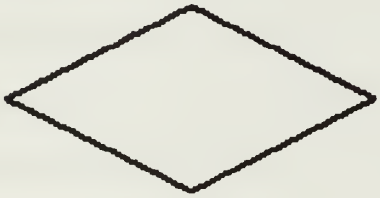
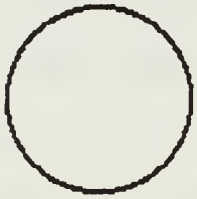
* psychiatric and rehabilitation hospitals, and

* hospitals operating under alternative state payment systems.

APPENDIX B

DECISION TREES FOR THE ICD-9-CM DRGs

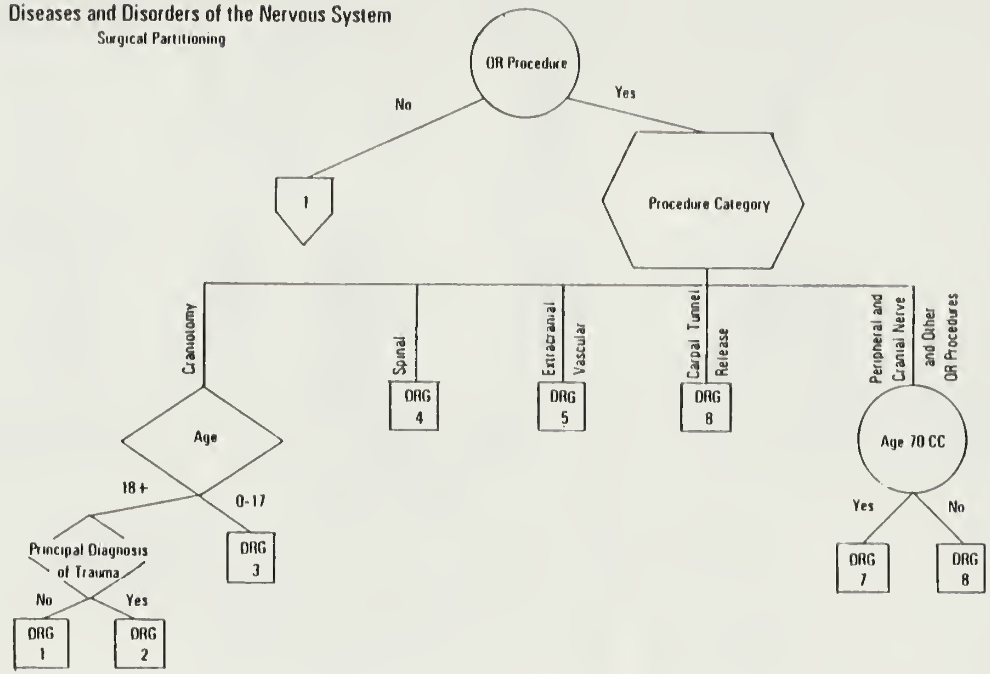
DEFINITION OF SYMBOLS USED IN DECISION TREES

Symbols	Definitions
	Decision operation
	Looping variable
	Hierarchy of operating room procedures
	Connector
	Terminal

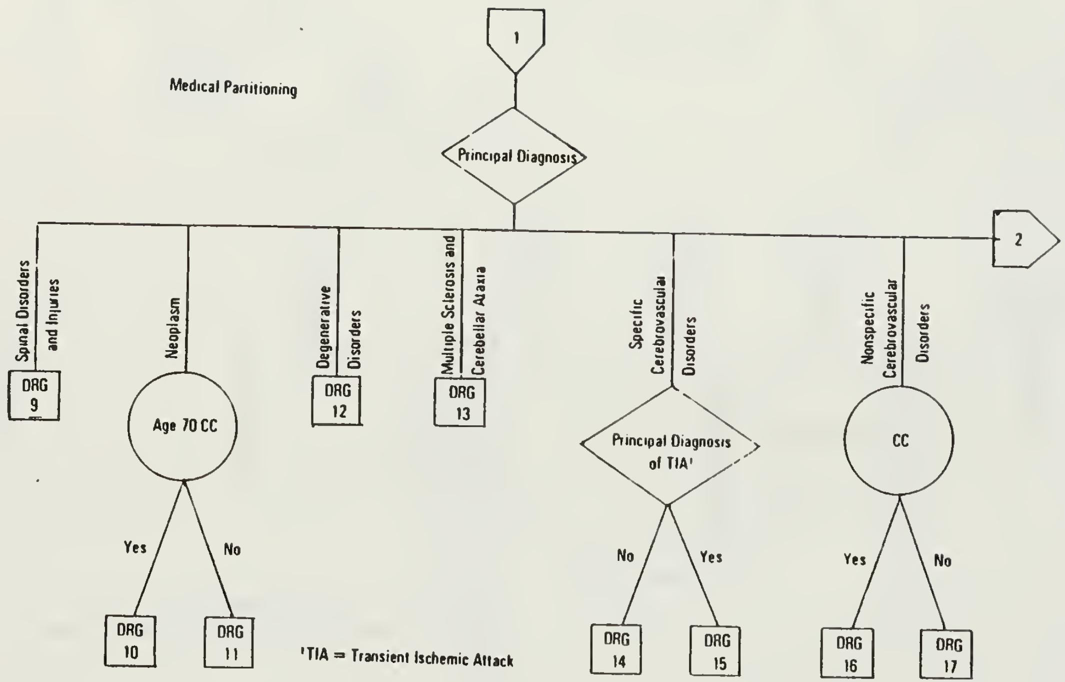
Source: The Revised ICD-9-CM Diagnosis Related Groups: Grouper User Manual (New Haven, CT: Health Systems International). Adapted from Paul L. Grimaldi and Julie A. Micheletti, Prospective Payment The Definitive Guide to Reimbursement, (Chicago; Pluribus Press), 1985., A-1

MDC 1: Diseases and Disorders of the Nervous System

Surgical Partitioning



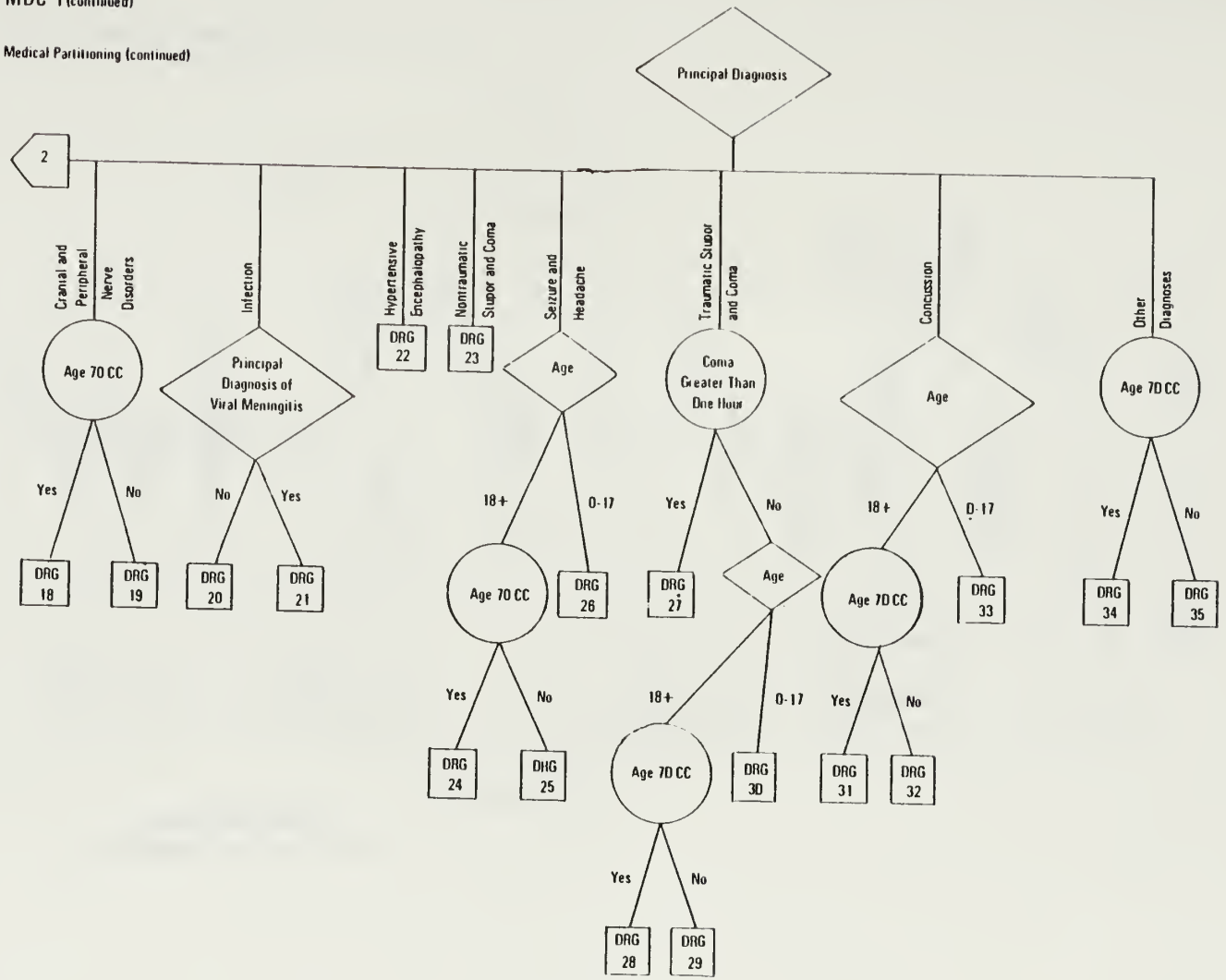
Medical Partitioning

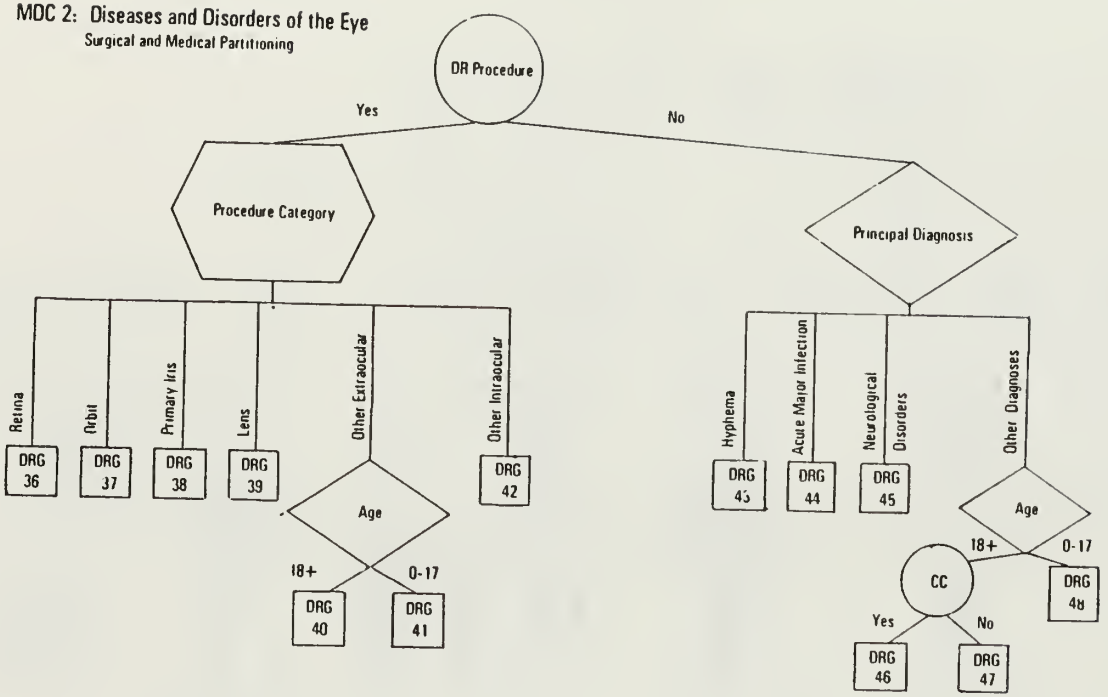


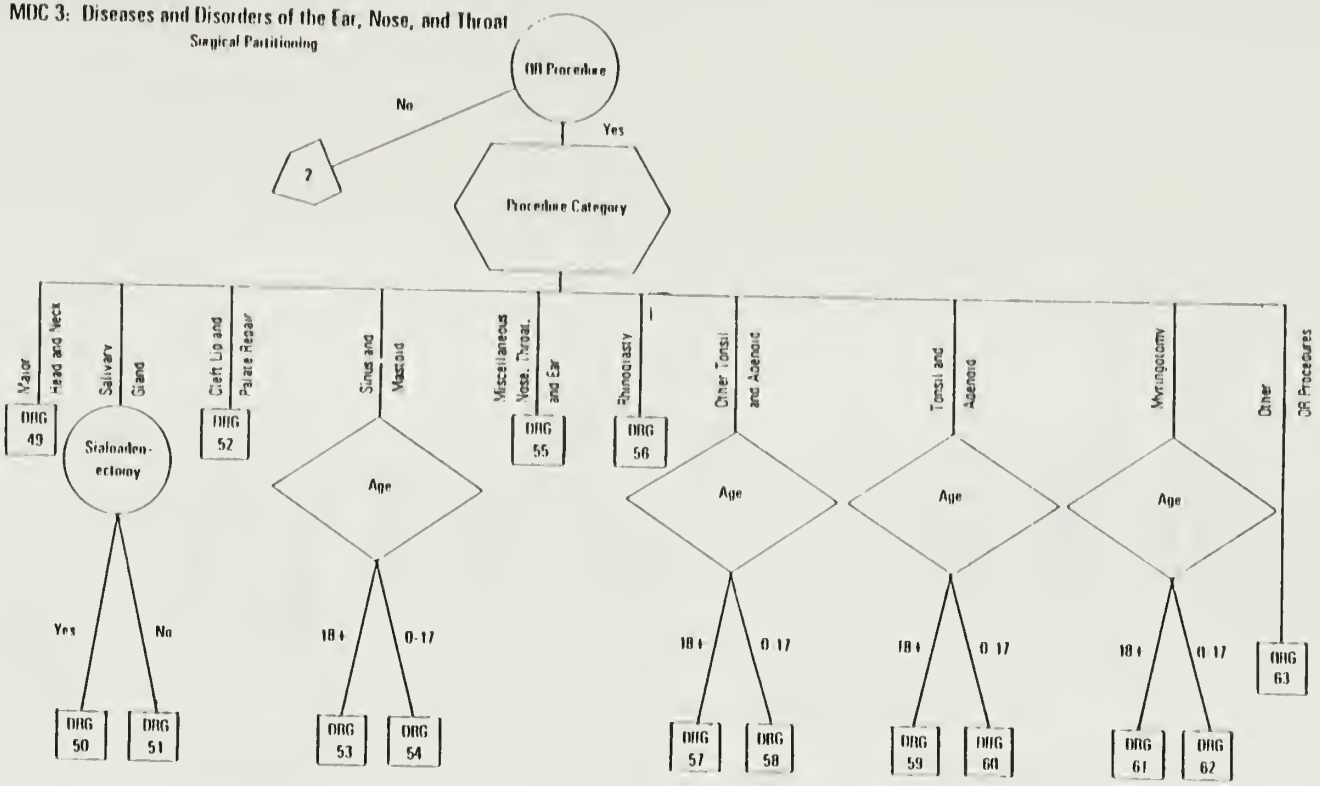
[1]TIA = Transient Ischemic Attack

MDC 1 (continued)

Medical Partitioning (continued)

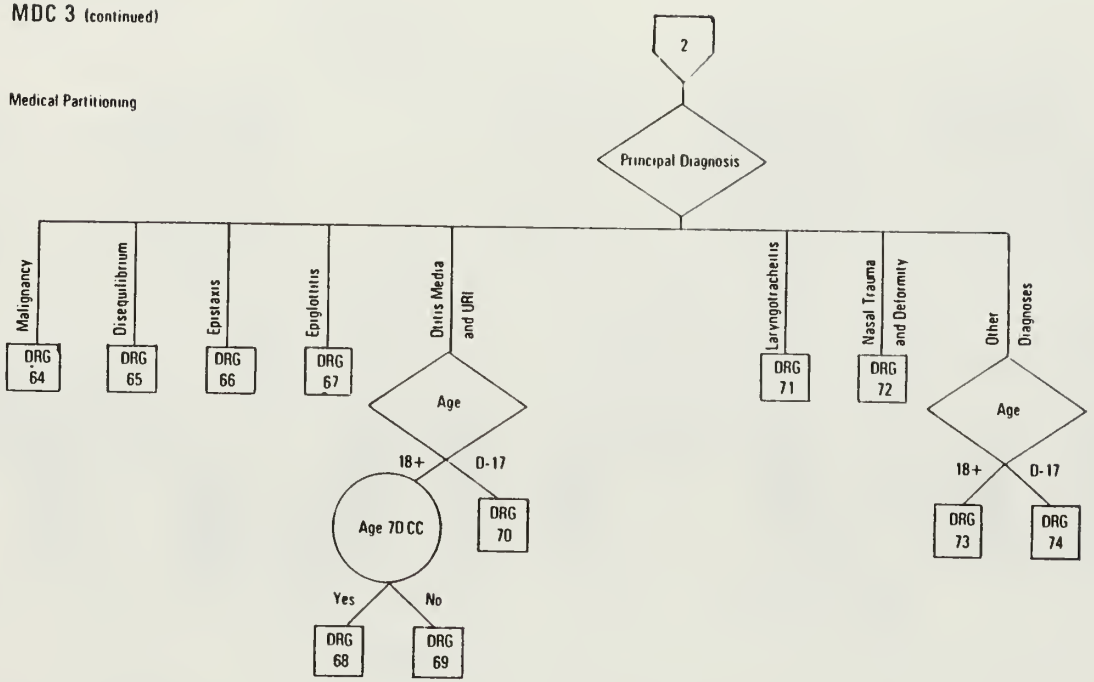



MDC 2: Diseases and Disorders of the Eye
Surgical and Medical Partitioning
OR Procedure
Yes
No
Procedure Category
Principal Diagnosis
Retina
Orbit
Primary Iris
Lens
Other Extraocular
Other Intraocular
Hyphema
Acute Major Infection
Neurological Disorders
Other Diagnoses
DRG 36
DRG 37
DRG 38
DRG 39
DRG 42
DRG 43
DRG 44
DRG 45
Age
18+
0-17
DRG 40
DRG 41
CC
DRG 48
Yes
No
DRG 46
DRG 47


MDC 3: Diseases and Disorders of the Ear, Nose, and Throat
Surgical Partitioning
OR Procedure
No
Yes
?
Procedure Category
Major Head and Neck
Salivary Gland
Cleft Lip and Palate Repair
Sinus and Mastoid
Miscellaneous Nose, Throat, and Ear
Rhinoplasty
Other Tonsil and Adenoid
Tonsil and Adenoid
Myringotomy
Other OR Procedures
DRG 49
Sialoadenectomy
DRG 52
Age
DRG 55
DRG 56
Age
Age
Age
DRG 63
Yes
No
18+
0-17
18+
0-17
18+
0-17
18+
0-17
DRG 50
DRG 51
DRG 53
DRG 54
DRG 57
DRG 58
DRG 59
DRG 60
DRG 61
DRG 62

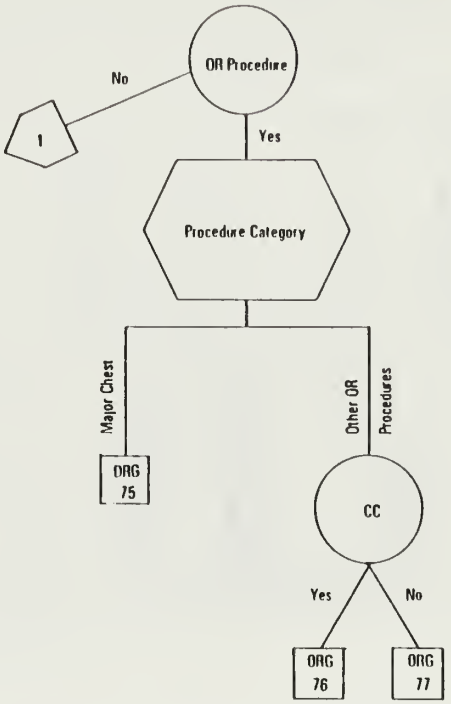
MDC 3 (continued)

Medical Partitioning

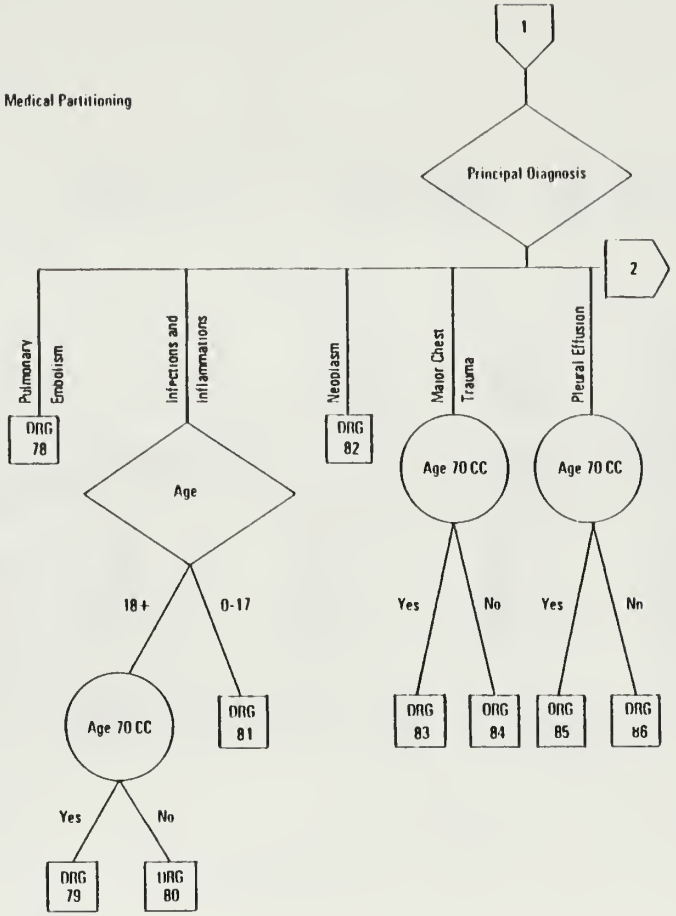


MDC 4: Diseases and Disorders of the Respiratory System

Surgical Partitioning

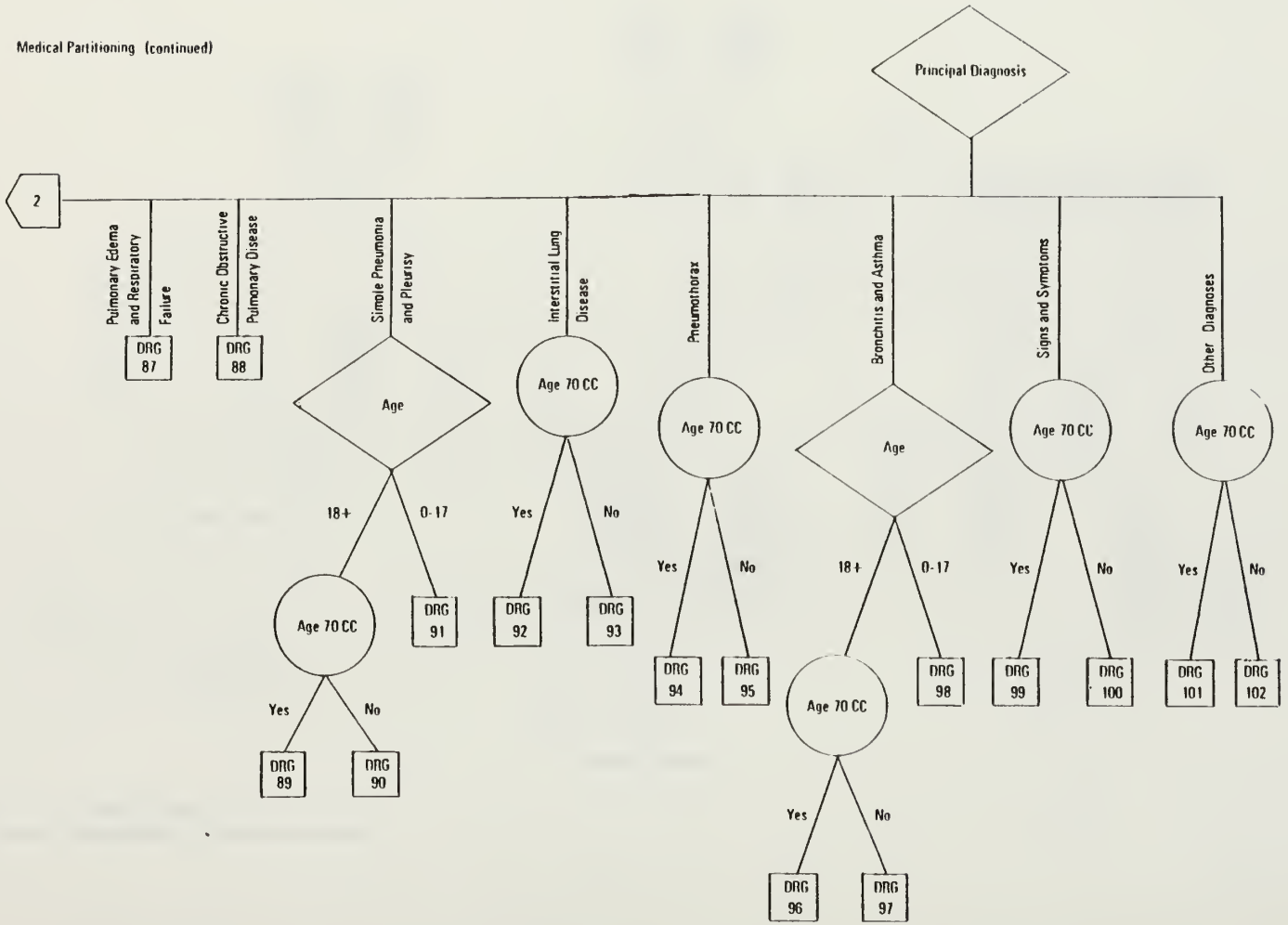


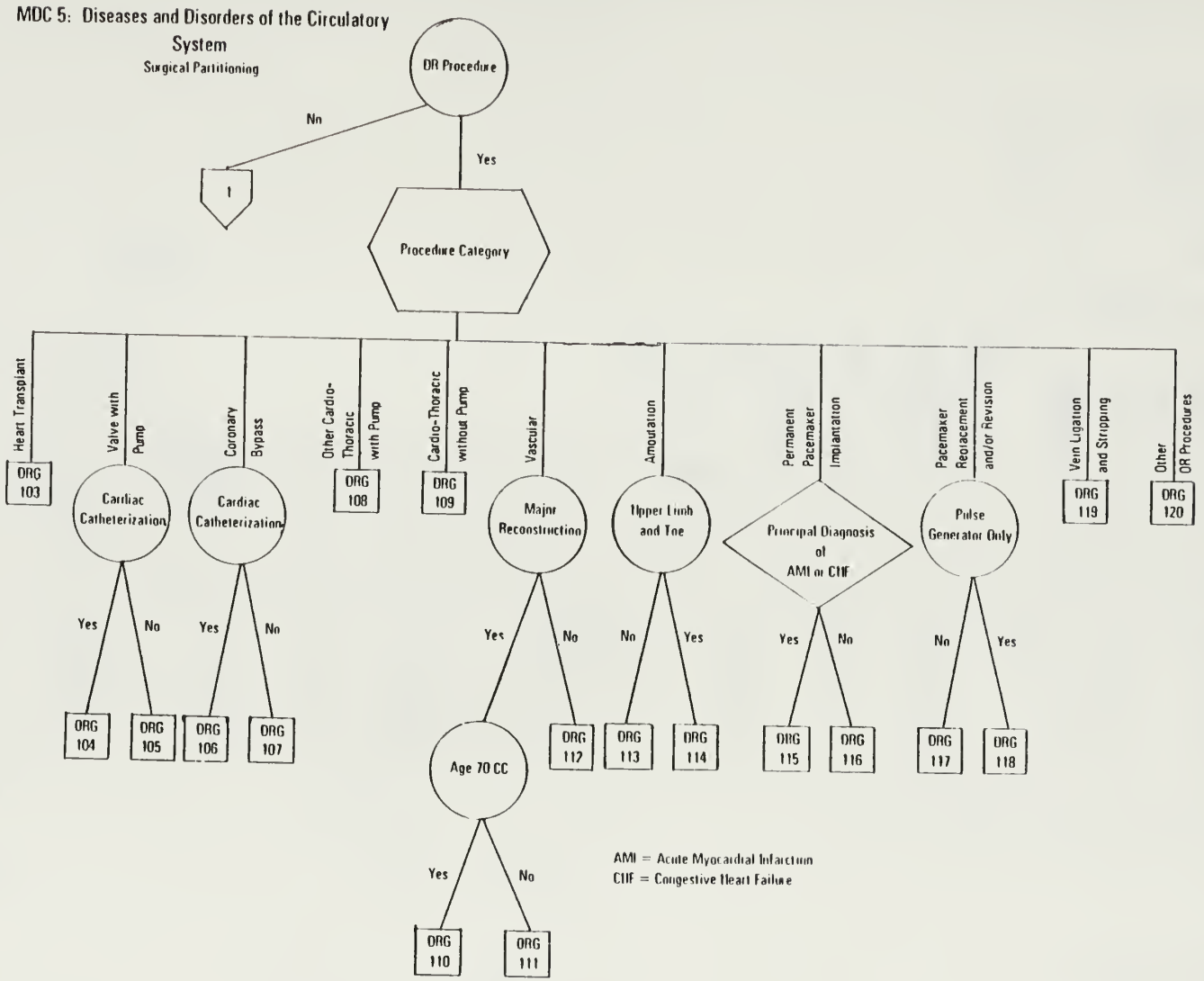
Medical Partitioning



MDC 4 (continued)

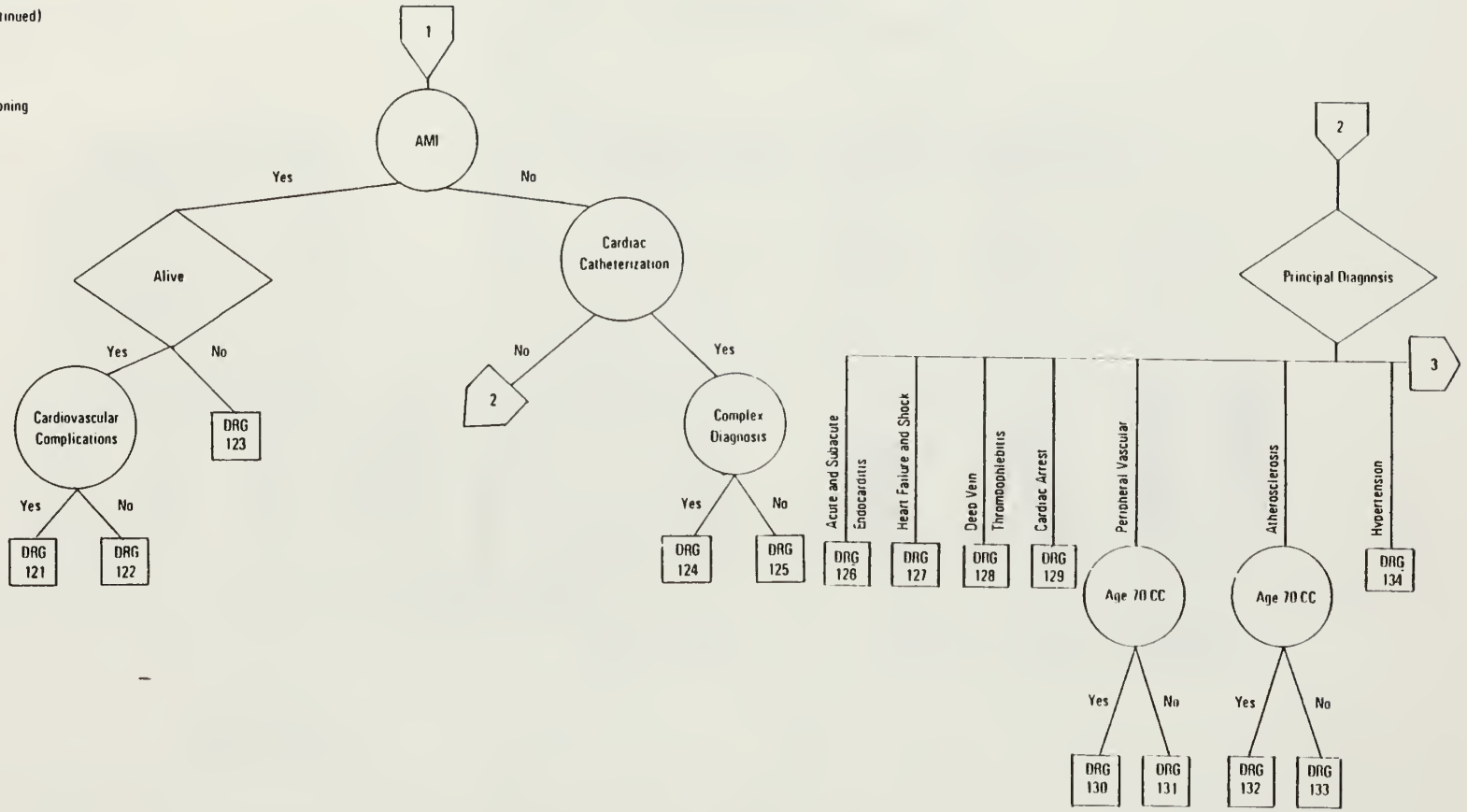
Medical Partitioning (continued)



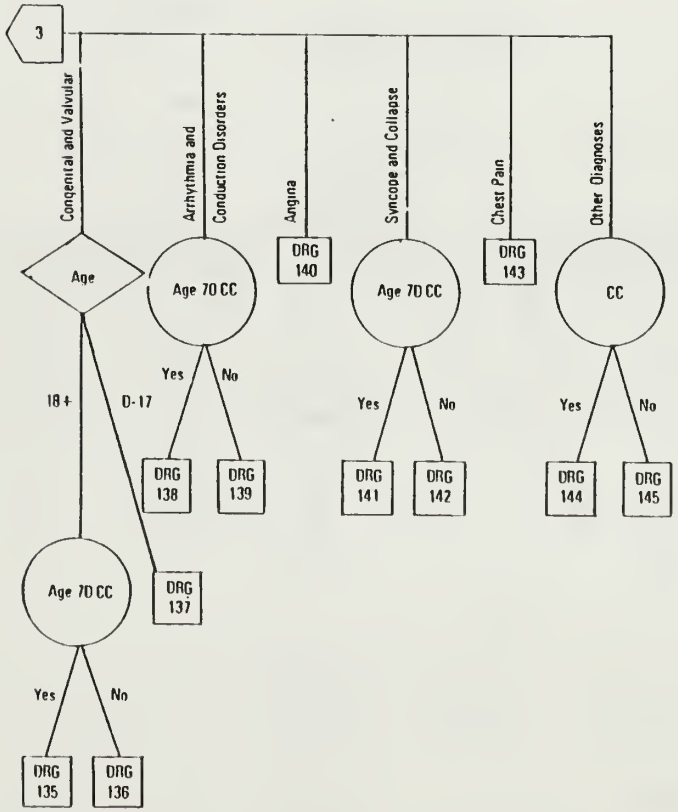

MDC 5: Diseases and Disorders of the Circulatory System
Surgical Partitioning
OR Procedure
No
Yes
1
Procedure Category
Heart Transplant
ORG 103
Valve with Pump
Cardiac Catheterization
Yes
No
ORG 104
ORG 105
Coronary Bypass
Cardiac Catheterization
Yes
No
ORG 106
ORG 107
Other Cardio-Thoracic with Pump
ORG 108
Cardio-Thoracic without Pump
ORG 109
Vascular
Major Reconstruction
Yes
No
Age 70 CC
Yes
No
ORG 110
ORG 111
ORG 112
Amputation
Upper Limb and Toe
No
Yes
ORG 113
ORG 114
Permanent Pacemaker Implantation
Principal Diagnosis of AMI or CHF
Yes
No
ORG 115
ORG 116
Pacemaker Replacement and/or Revision
Pulse Generator Only
No
Yes
ORG 117
ORG 118
Vein Ligation and Stripping
ORG 119
Other OR Procedures
ORG 120
AMI = Acute Myocardial Infarction
CHF = Congestive Heart Failure

MDC 5 (continued)

Medical Partitioning

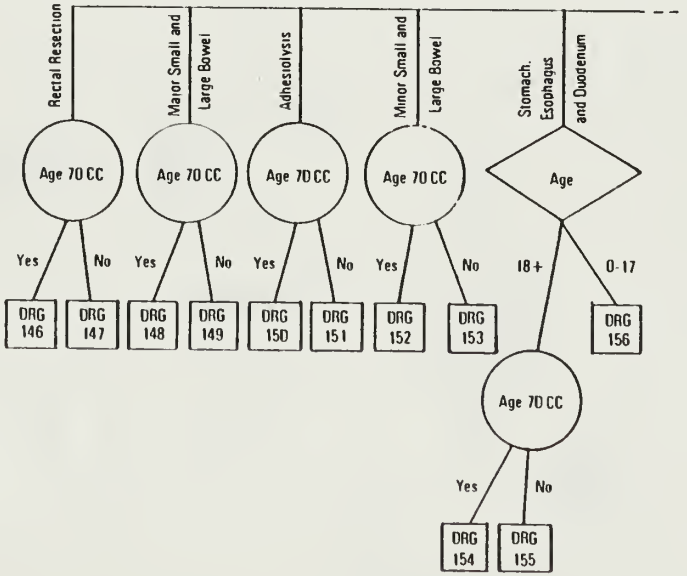


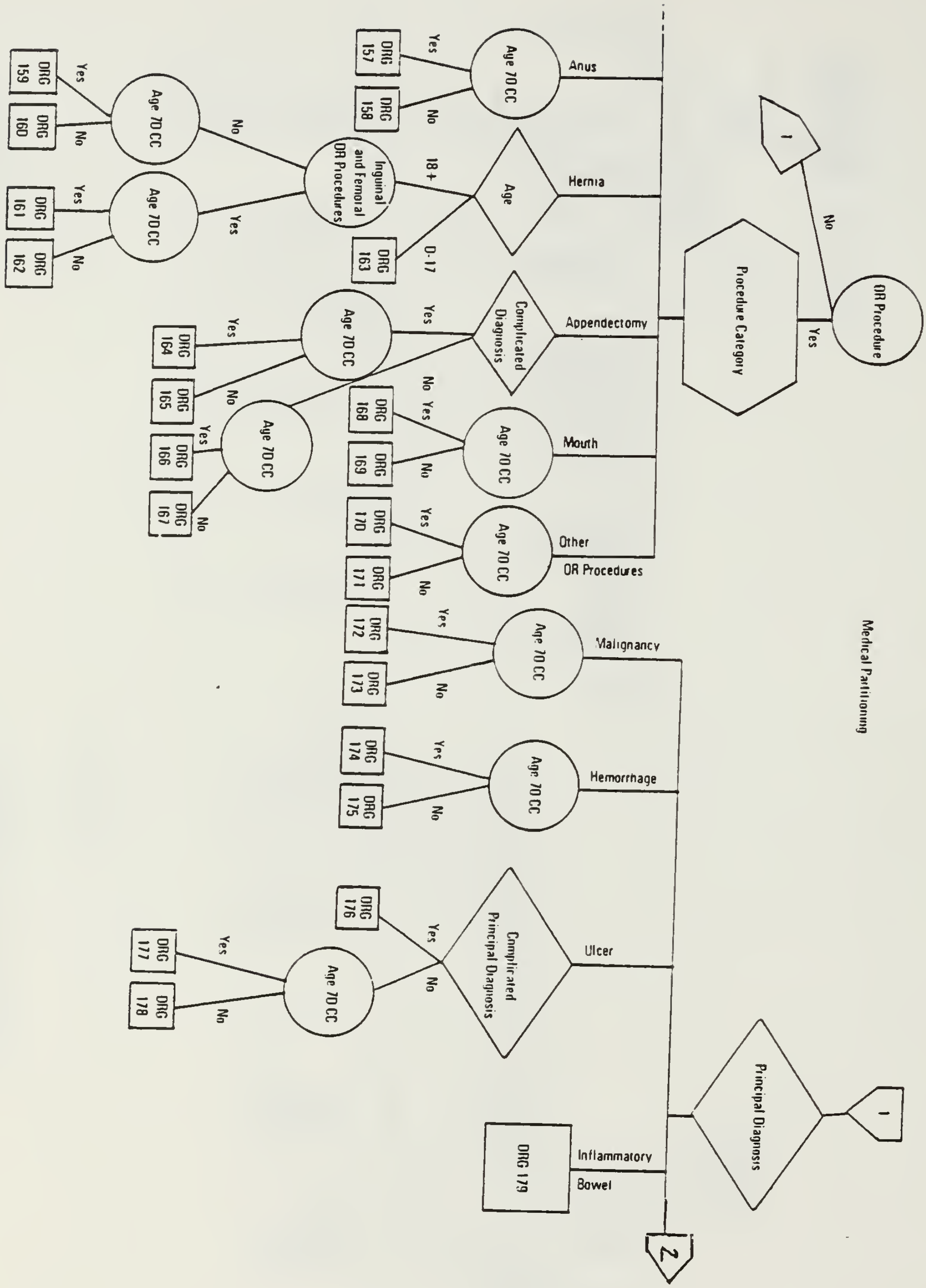
MDC 5 (continued)
Medical Partitioning (continued)



MDC 6: Diseases and Disorders of the Digestive System

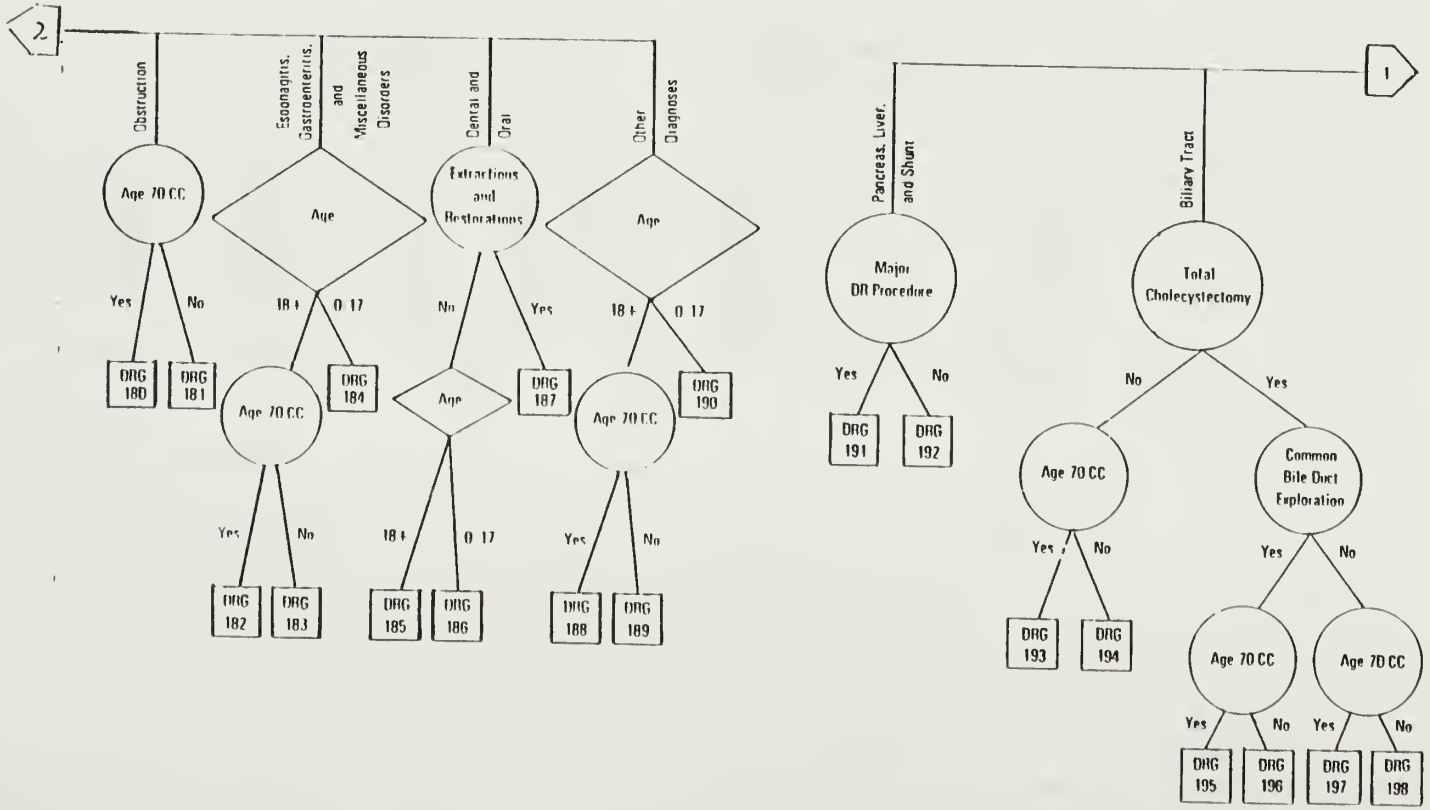
Surgical Partitioning



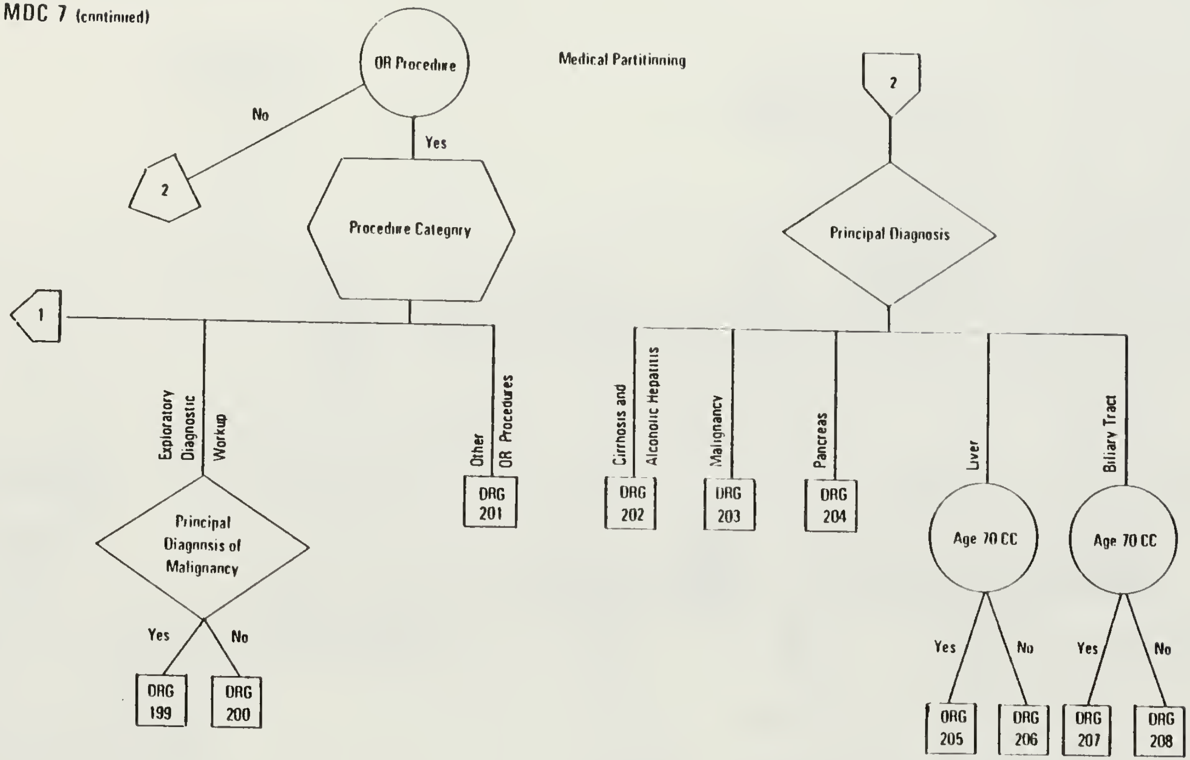

Medical Partitioning
OR Procedure
Yes
No
1
Procedure Category
Anus
Hernia
Appendectomy
Mouth
Other
OR Procedures
Age 70 CC
Age
18+
0-17
Inguinal and Femoral OR Procedures
Complicated Diagnosis
DRG 157
DRG 158
DRG 159
DRG 160
DRG 161
DRG 162
DRG 163
DRG 164
DRG 165
DRG 166
DRG 167
DRG 168
DRG 169
DRG 170
DRG 171
Principal Diagnosis
Malignancy
Hemorrhage
Ulcer
Inflammatory Bowel
Complicated Principal Diagnosis
DRG 172
DRG 173
DRG 174
DRG 175
DRG 176
DRG 177
DRG 178
DRG 179
2

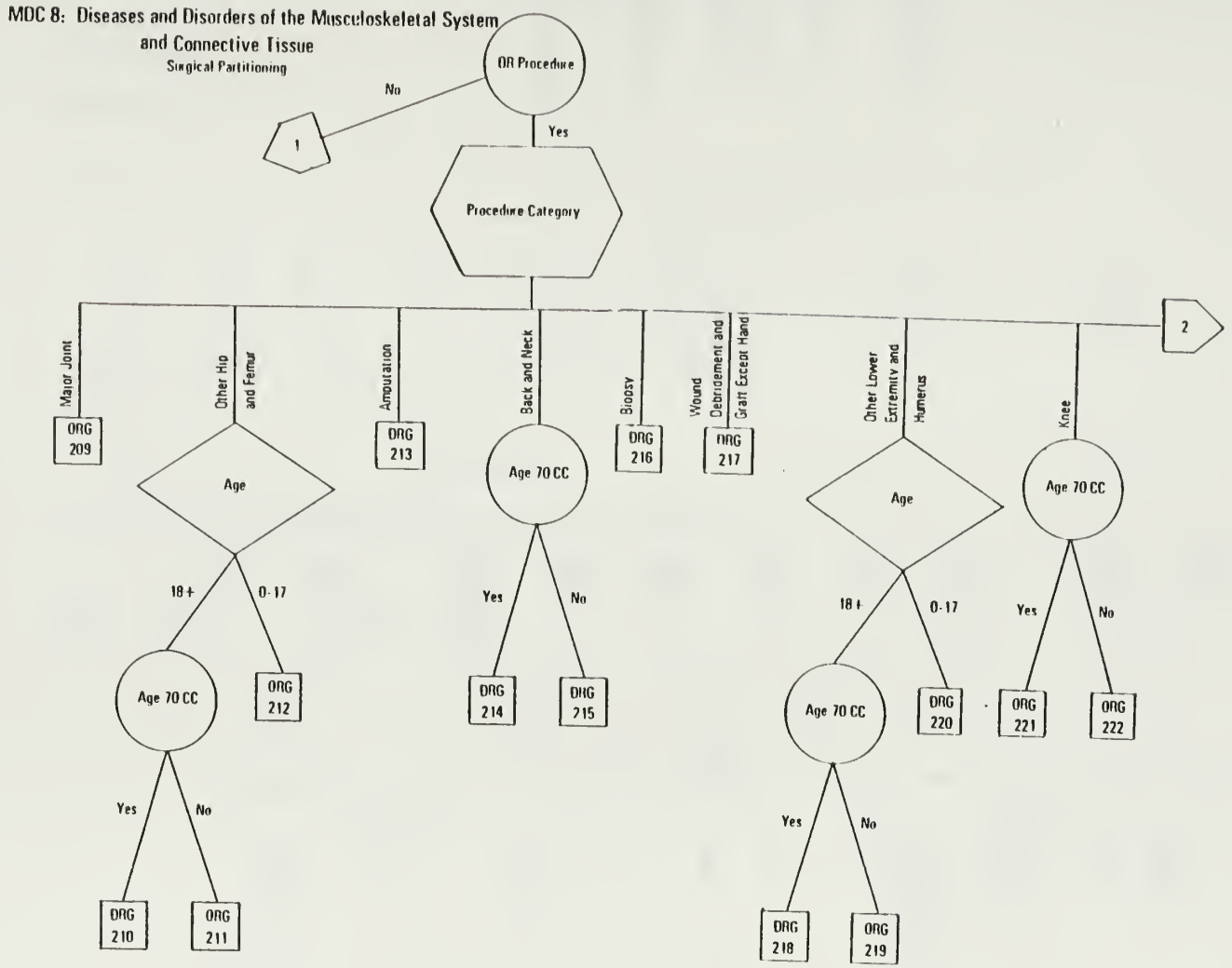
MDC 7: Diseases and Disorders of the Hepatobiliary System and Pancreas

Surgical Partitioning



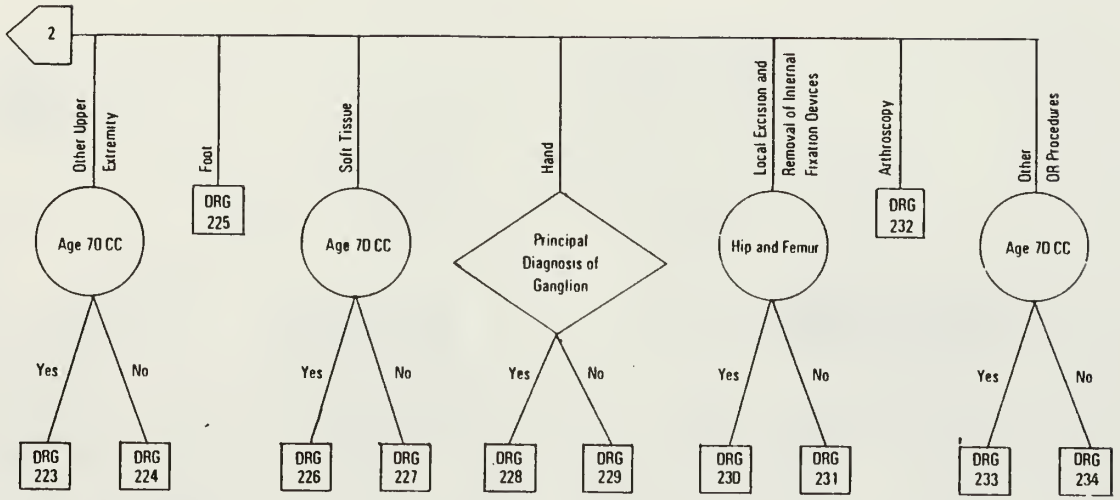
MDC 7 (continued)




MDC 8: Diseases and Disorders of the Musculoskeletal System and Connective Tissue
Surgical Partitioning
OR Procedure
No
Yes
1
Procedure Category
2
Major Joint
Other Hip and Femur
Amputation
Back and Neck
Biopsy
Wound Debridement and Grant Excear Hand
Other Lower Extremity and Humerus
Knee
ORG 209
Age
ORG 213
Age 70 CC
ORG 216
ORG 217
Age
Age 70 CC
18+
0-17
Yes
No
Age 70 CC
ORG 212
ORG 214
ORG 215
ORG 220
ORG 221
ORG 222
Yes
No
Yes
No
ORG 210
ORG 211
ORG 218
ORG 219

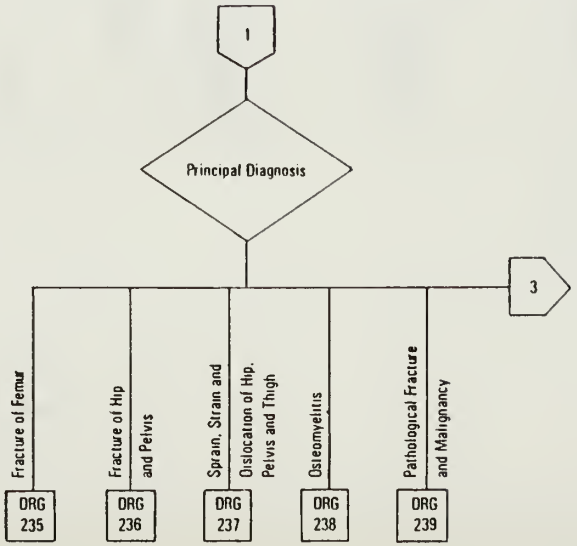
MDC 8 (continued)

Surgical Partitioning (continued)



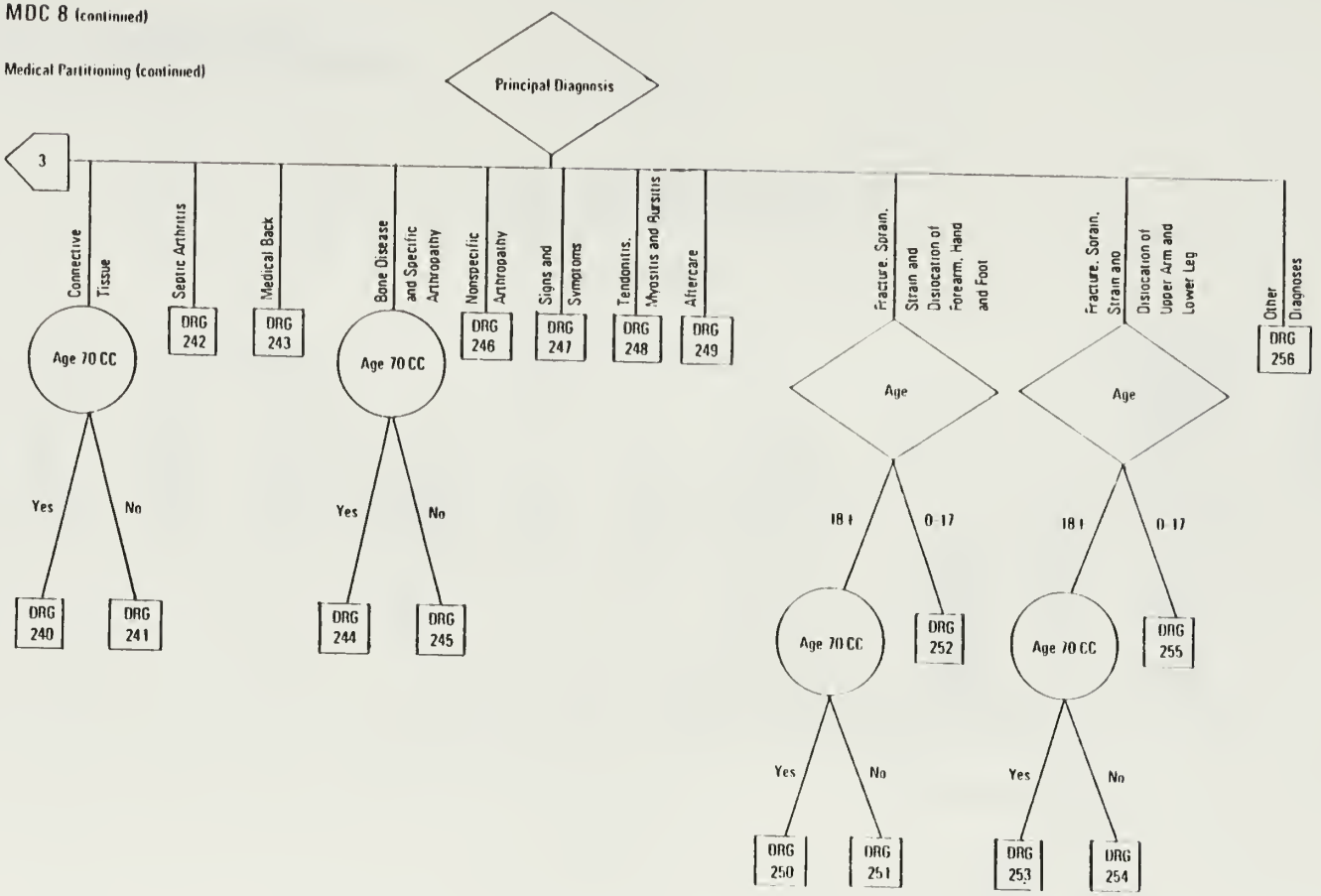
Note: DRGs 230 and 231 immediately precede DRGs 223 and 224 in the official DRG grouper.

Medical Partitioning



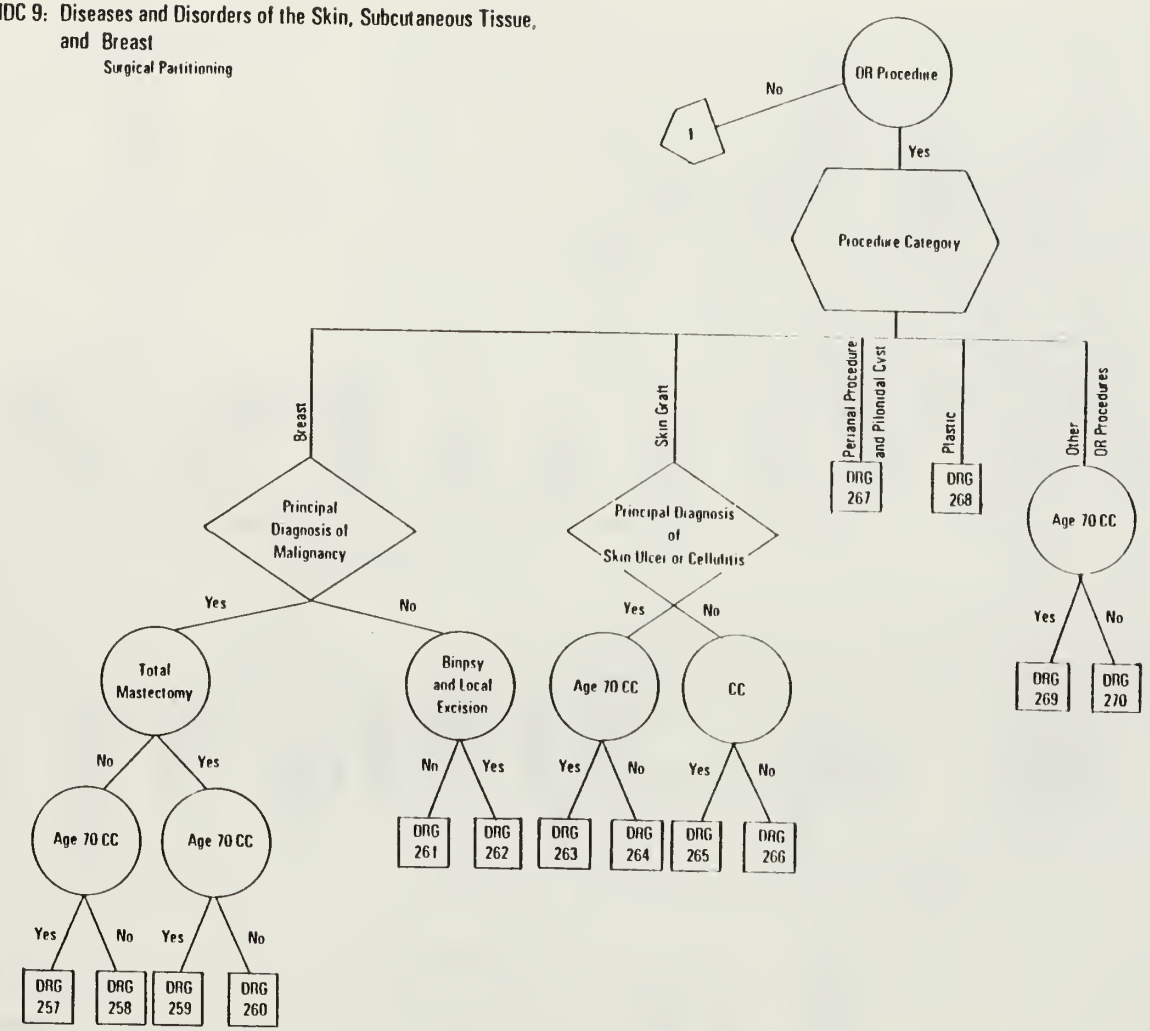
MDC 8 (continued)

Medical Partitioning (continued)

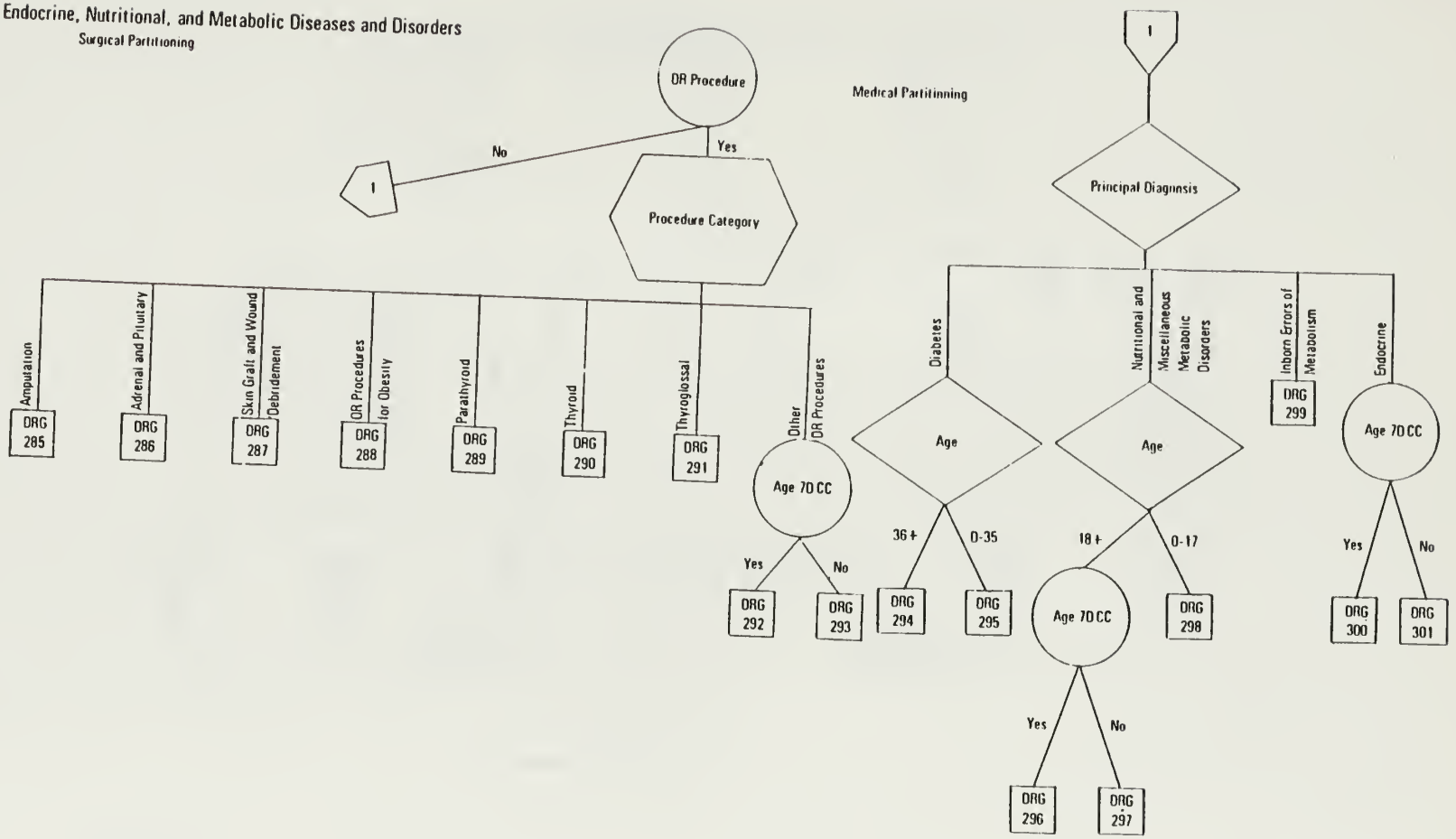


MDC 9: Diseases and Disorders of the Skin, Subcutaneous Tissue, and Breast

Surgical Partitioning

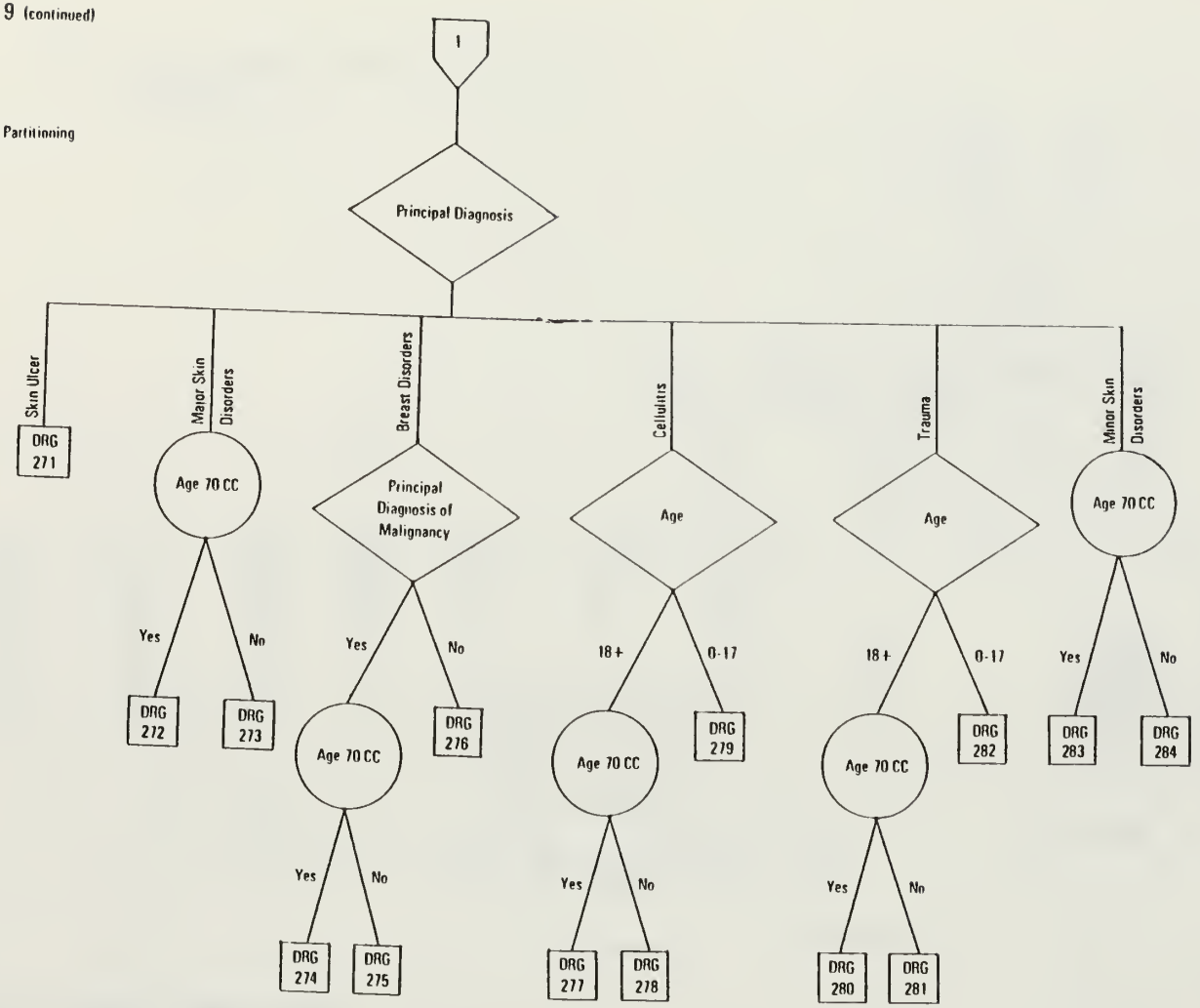


MDC 10: Endocrine, Nutritional, and Metabolic Diseases and Disorders

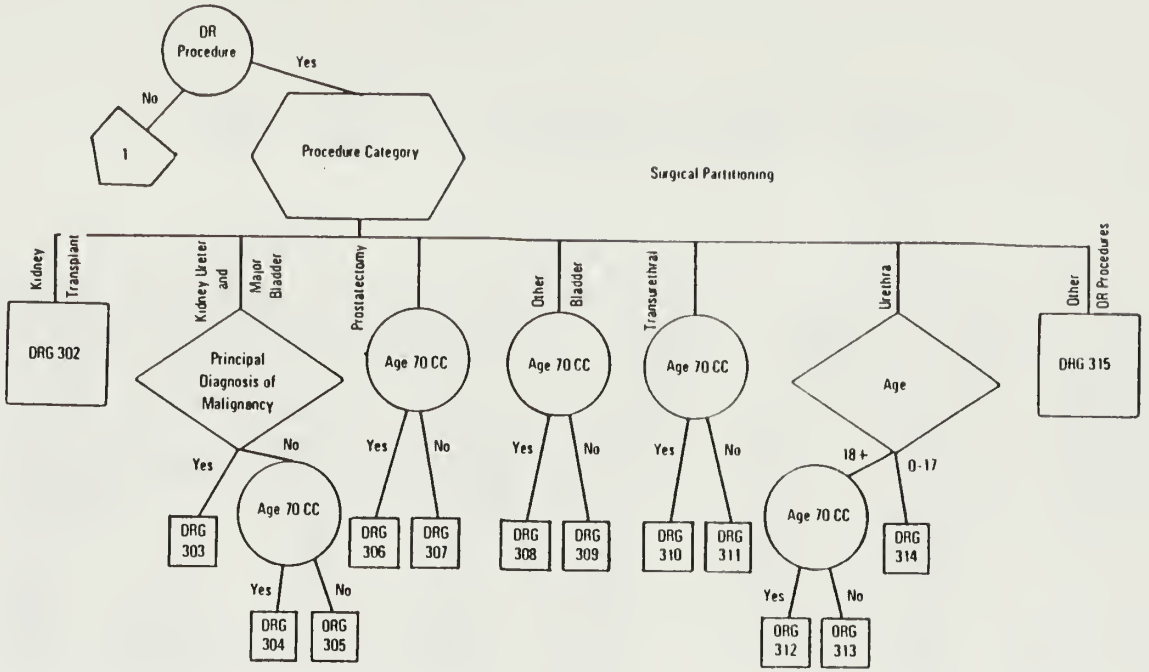


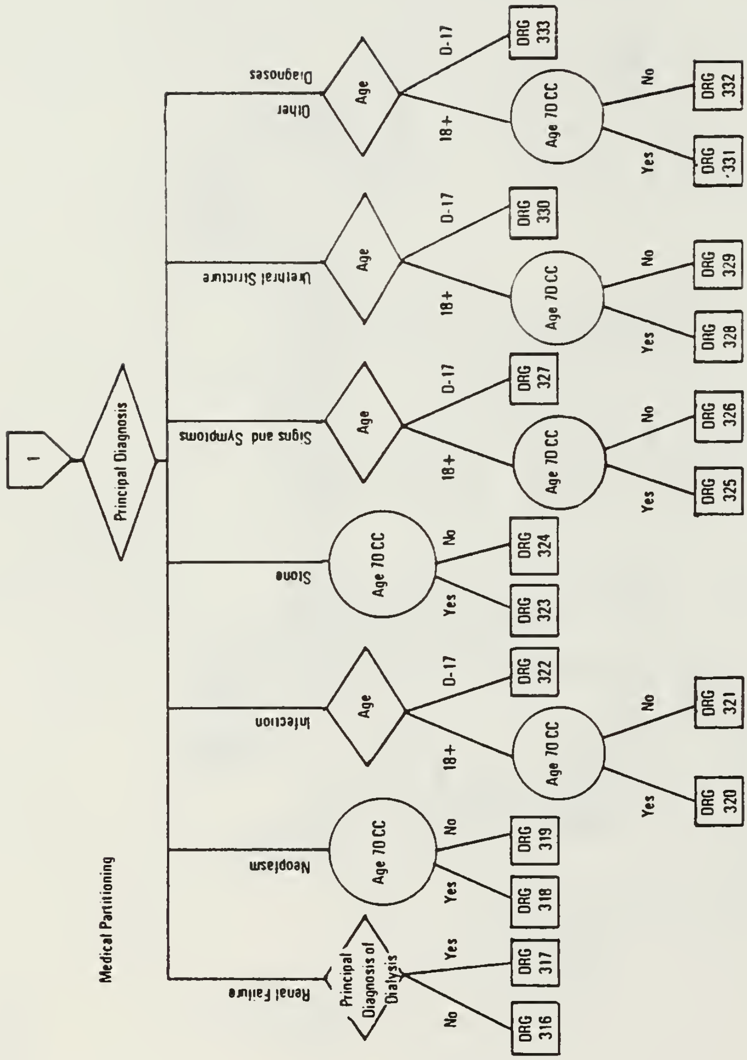
MDC 9 (continued)

Medical Partitioning



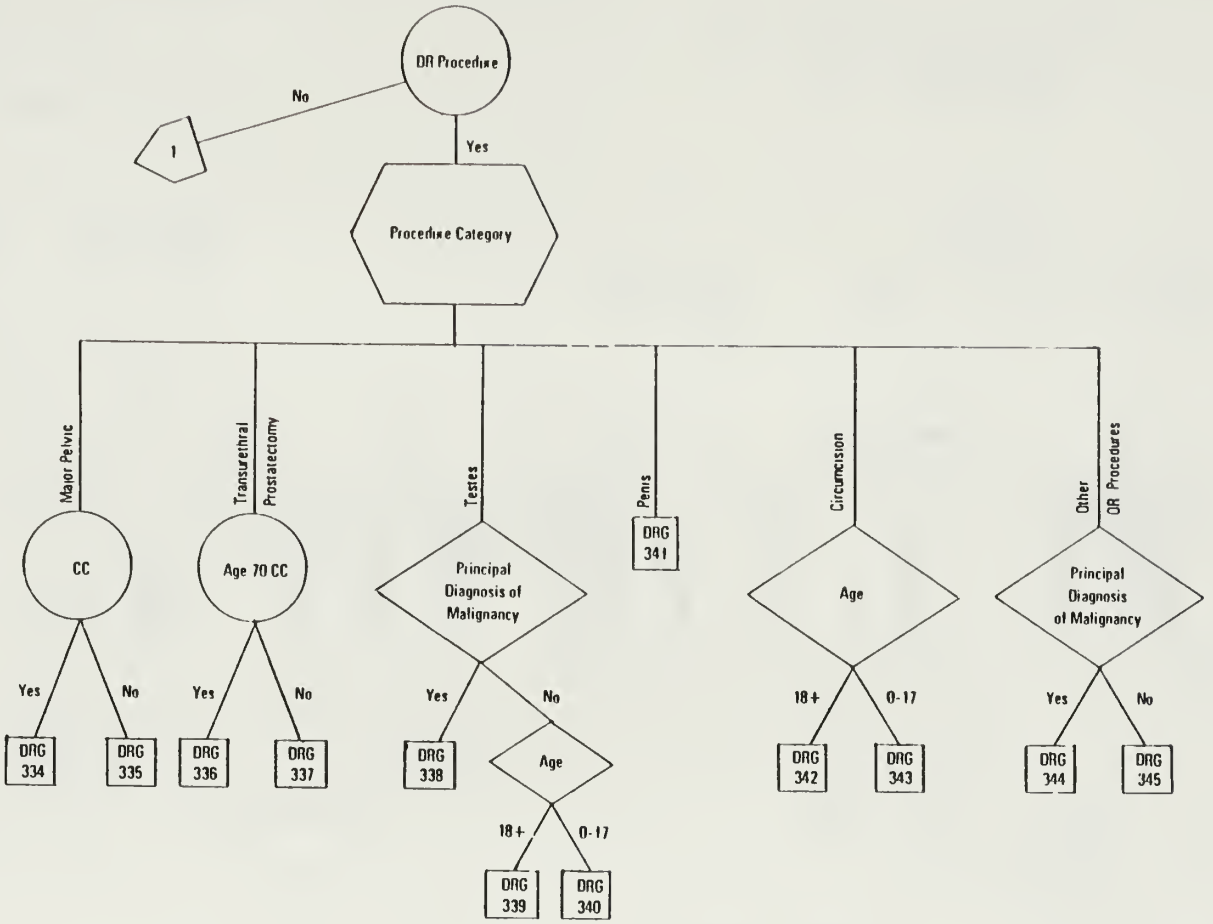
Decision Tree for MDC 11: Diseases and Disorders of the Kidney and Urinary Tract




Medical Partitioning
1
Principal Diagnosis
Renal Failure
Principal Diagnosis of Dialysis
No
Yes
DRG 316
DRG 317
Neoplasm
Age 70 CC
Yes
No
DRG 318
DRG 319
Infection
Age
0-17
18+
DRG 322
Age 70 CC
Yes
No
DRG 320
DRG 321
Stone
Age 70 CC
Yes
No
DRG 323
DRG 324
Signs and Symptoms
Age
0-17
18+
DRG 327
Age 70 CC
Yes
No
DRG 325
DRG 326
Urethral Stricture
Age
0-17
18+
DRG 330
Age 70 CC
Yes
No
DRG 328
DRG 329
Other Diagnoses
Age
0-17
18+
DRG 333
Age 70 CC
Yes
No
DRG 331
DRG 332

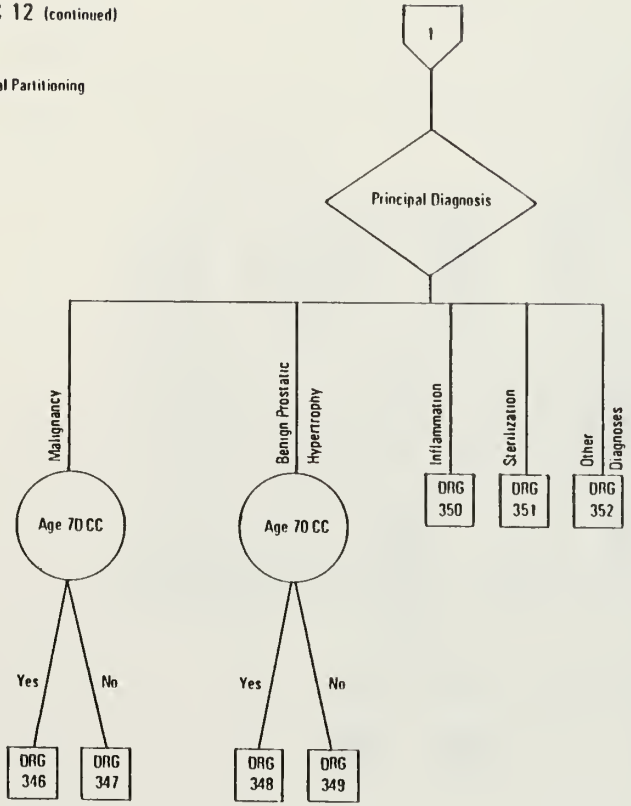
MDC 12: Diseases and Disorders of the Male Reproductive System

Surgical Partitioning



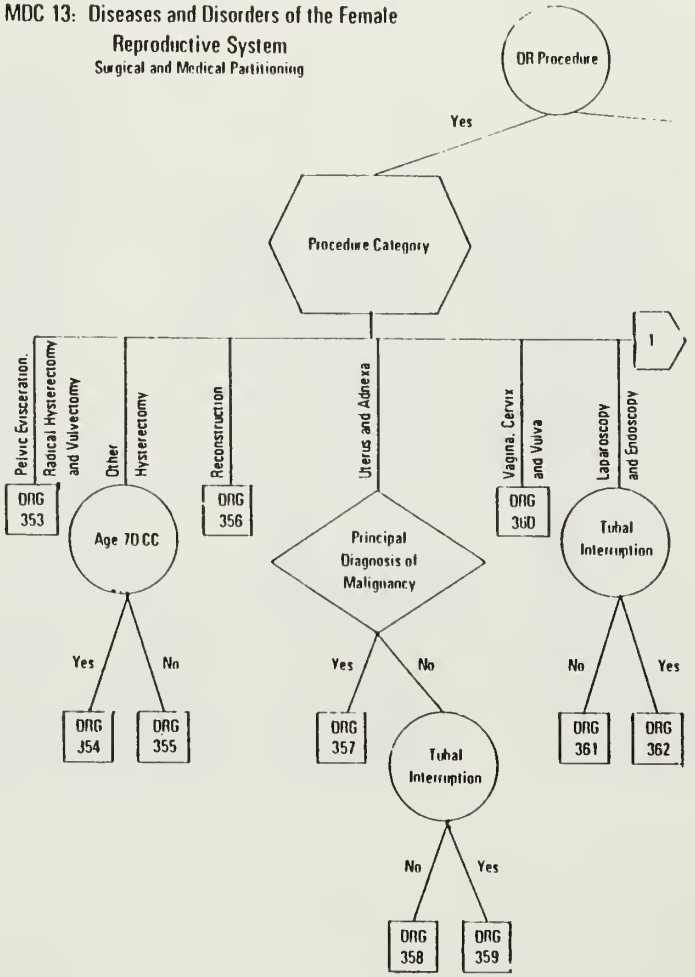
MDC 12 (continued)

Medical Partitioning



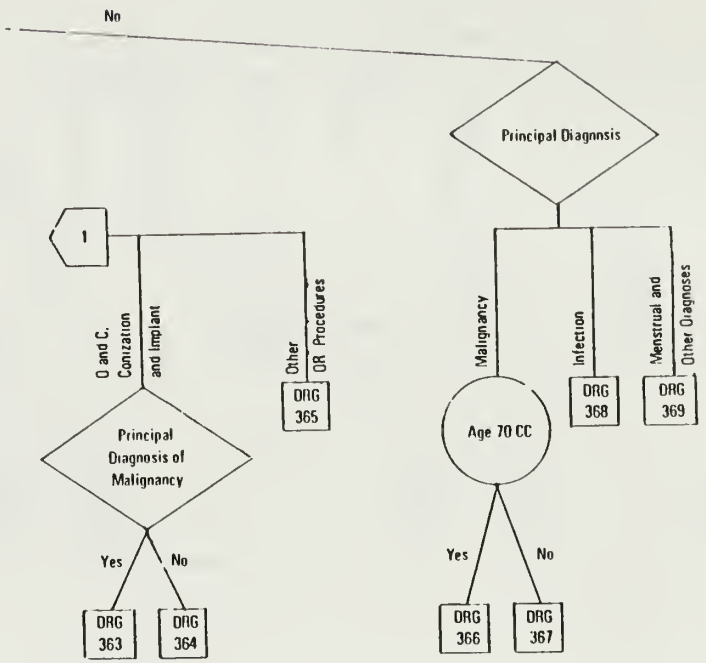
MDC 13: Diseases and Disorders of the Female Reproductive System

Surgical and Medical Partitioning



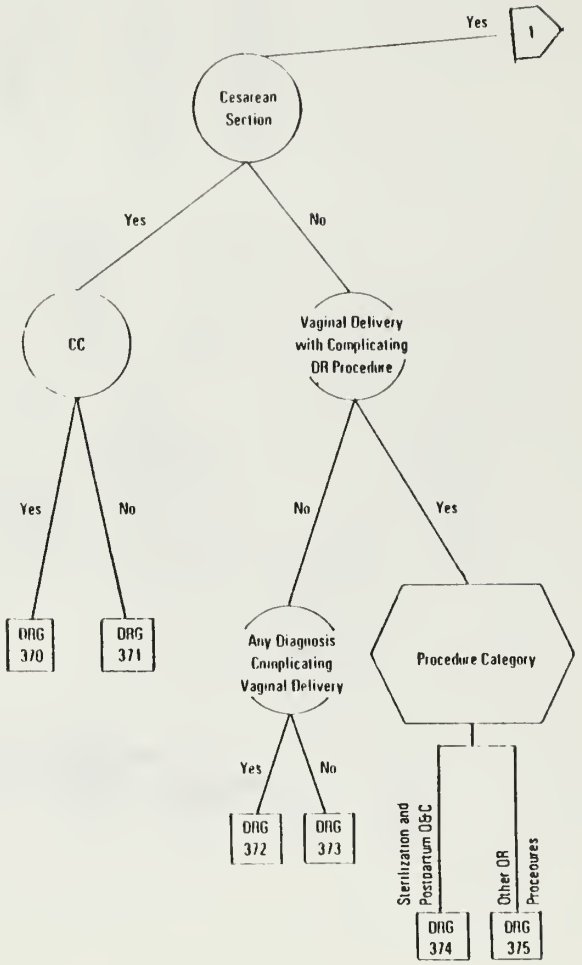
MDC 13 (continued)

Surgical and Medical Partitioning (continued)

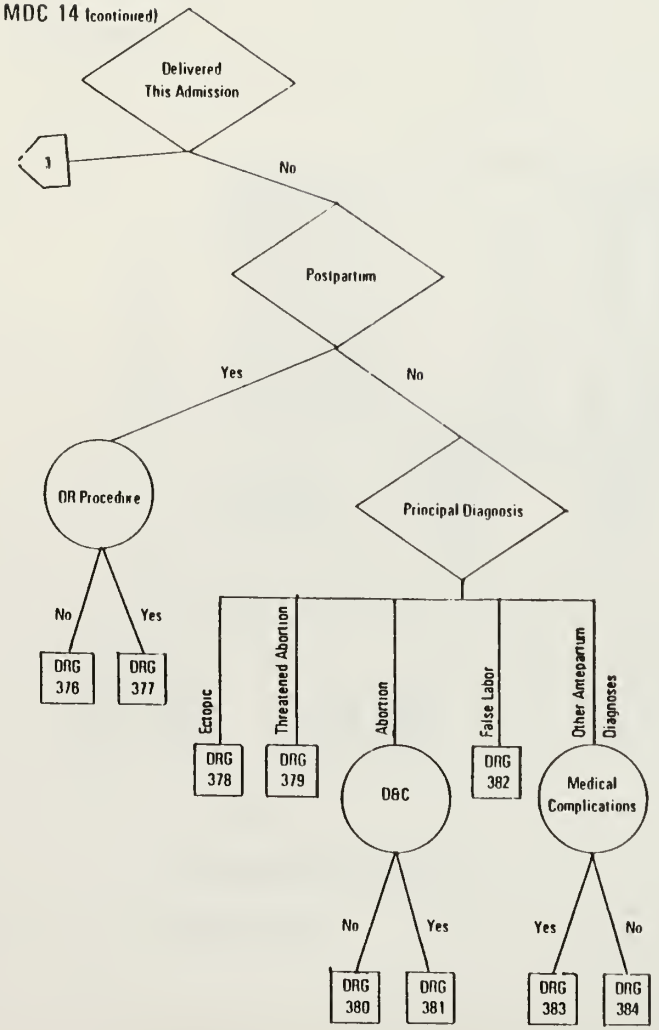


MDC 14: Pregnancy, Childbirth, and the Puerperium

Surgical and Medical Partitioning

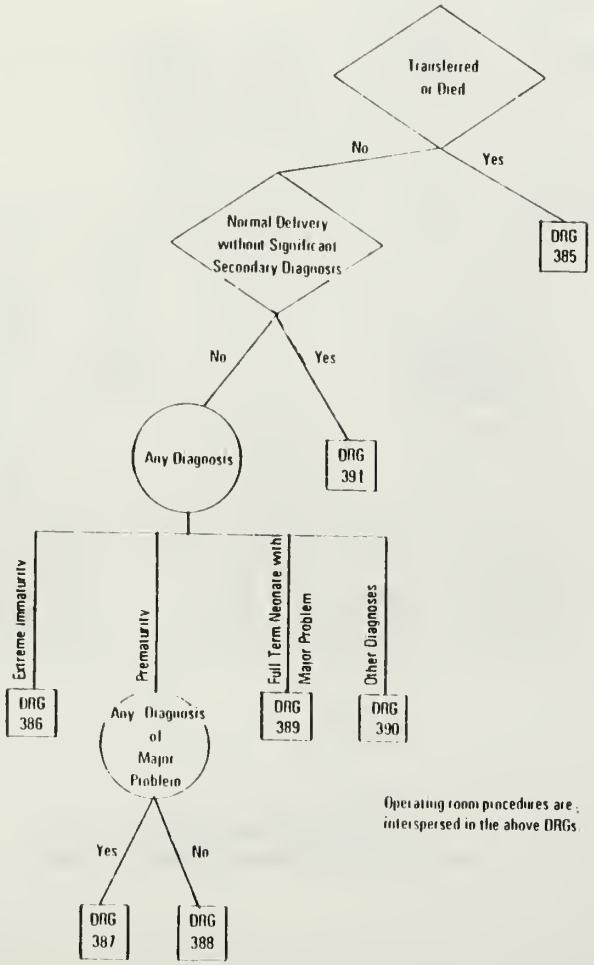


MDC 14 (continued)



MDC 15: Newborns and Other Neonates with Conditions Originating in the Perinatal Period

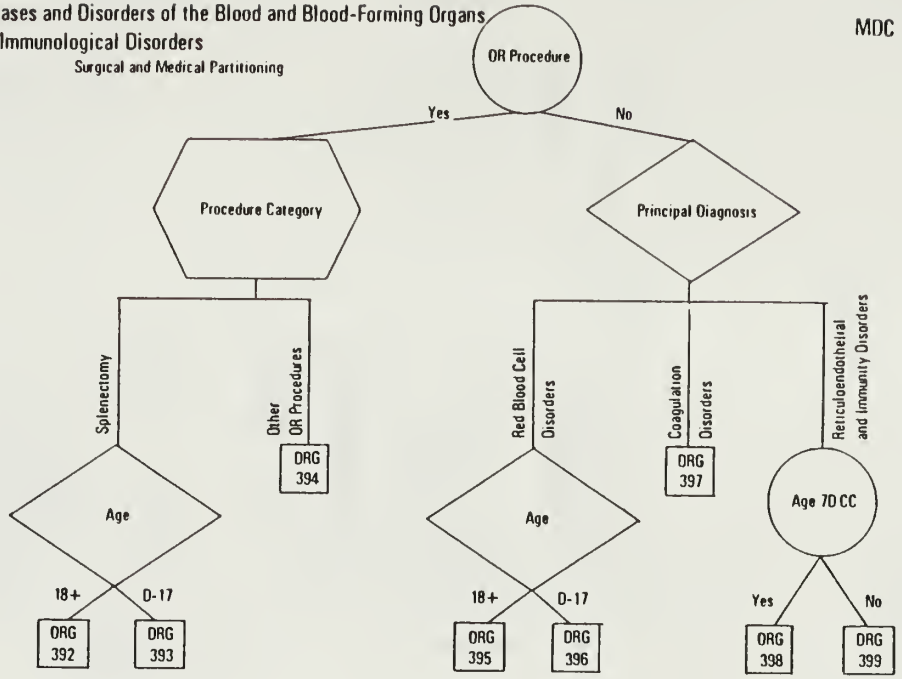
Surgical and Medical Partitioning



Operating room procedures are interspersed in the above DRGs

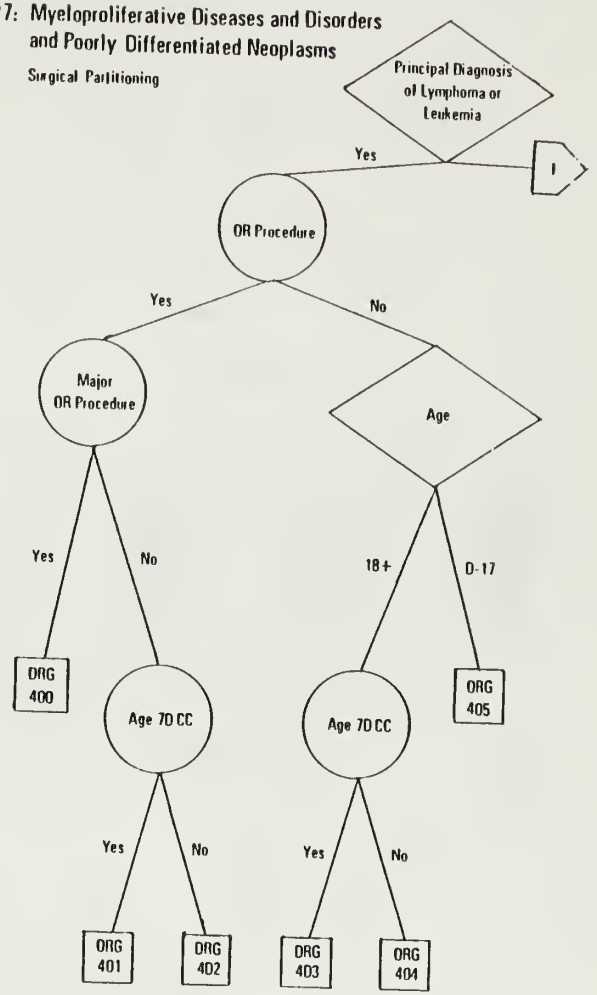
MDC 16: Diseases and Disorders of the Blood and Blood-Forming Organs and Immunological Disorders

Surgical and Medical Partitioning



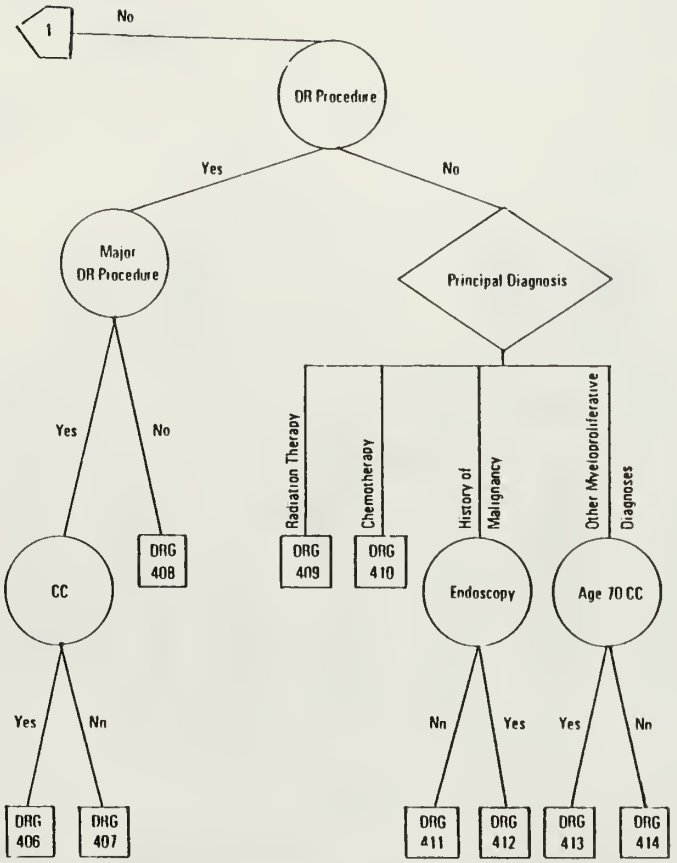
MDC 17: Myeloproliferative Diseases and Disorders and Poorly Differentiated Neoplasms

Surgical Partitioning



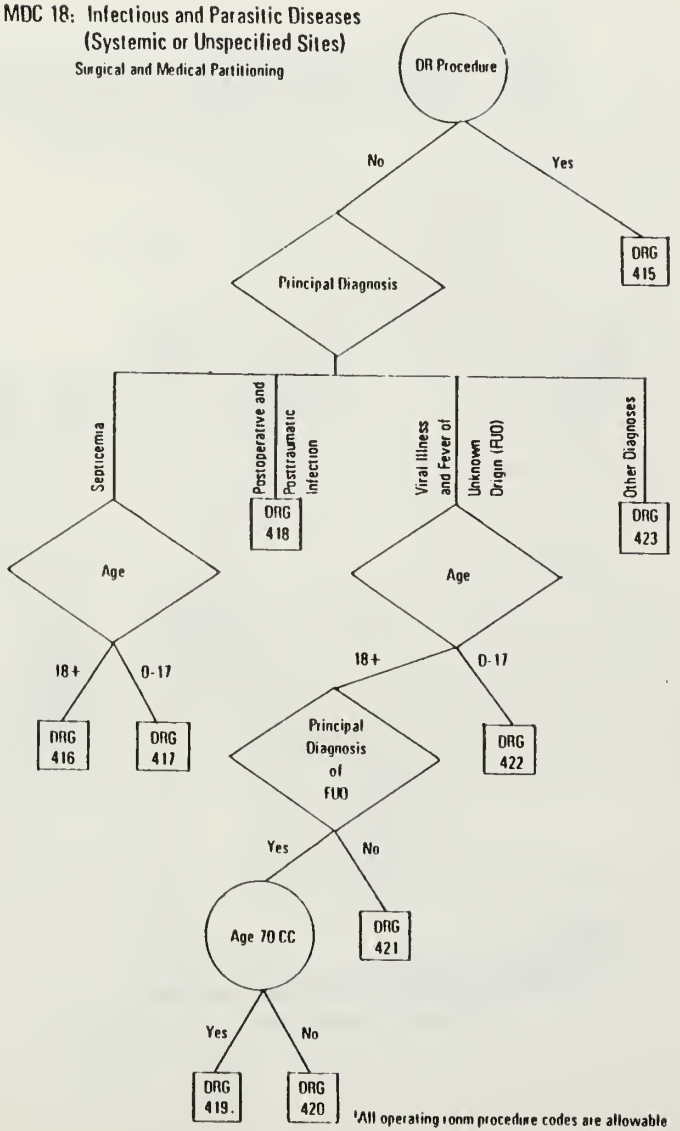
MDC 17 (continued)

Medical Partitioning



MDC 18: Infectious and Parasitic Diseases (Systemic or Unspecified Sites)

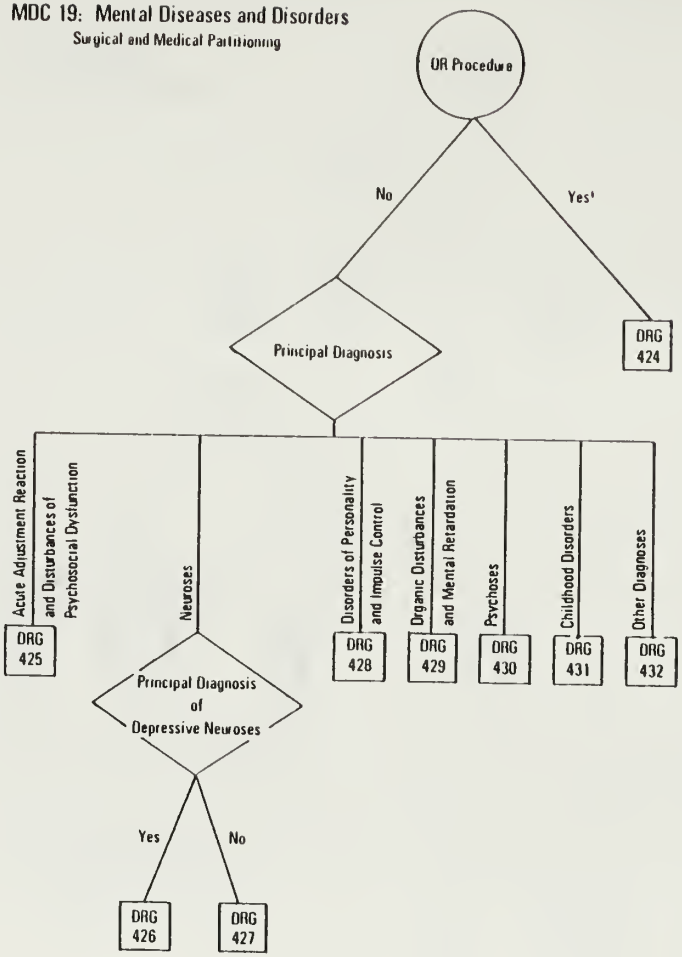
Surgical and Medical Partitioning



[1]All operating room procedure codes are allowable

MDC 19: Mental Diseases and Disorders

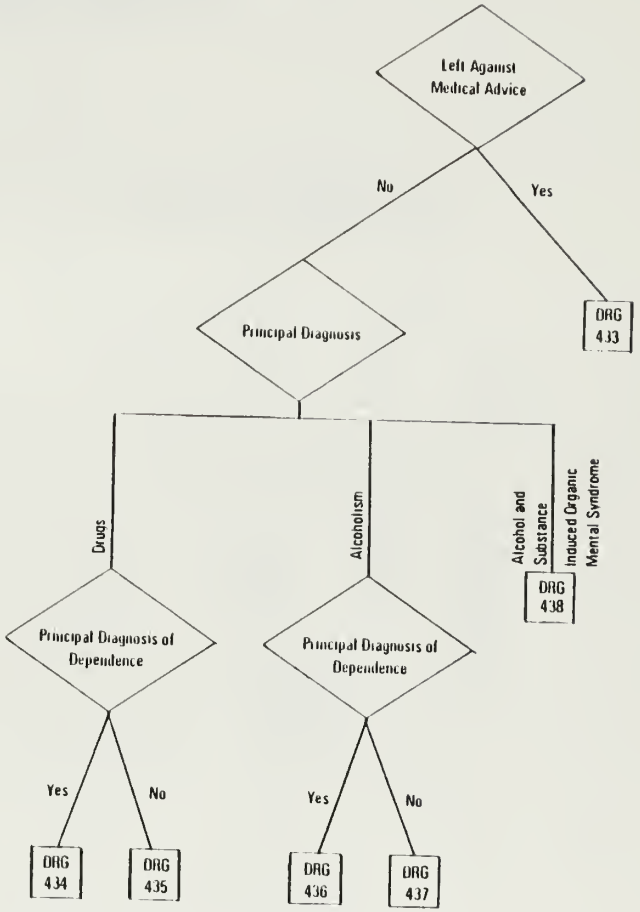
Surgical and Medical Partitioning



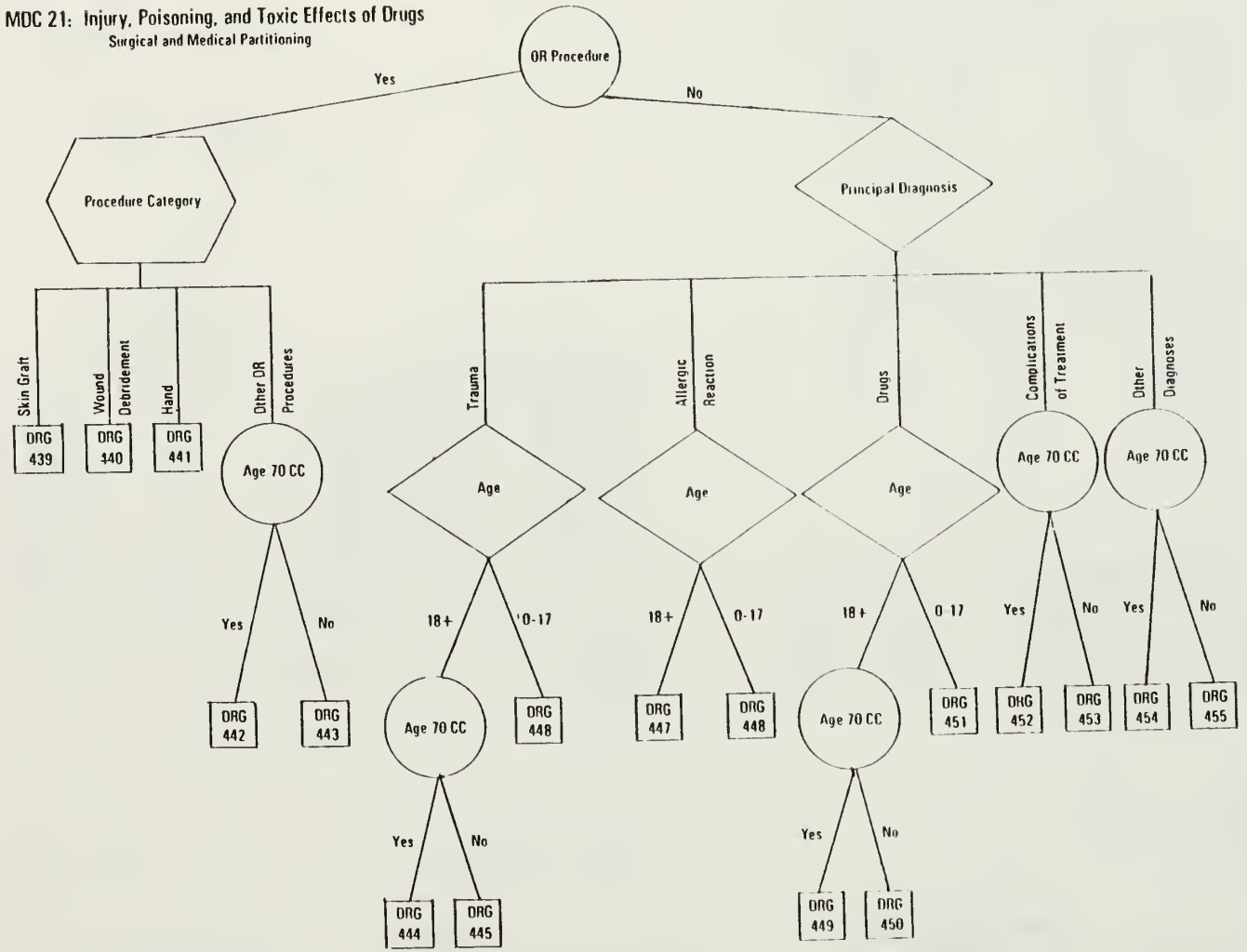
[1]All operating room procedure codes are allowable

MDC 20: Substance Use Disorders and Substance Induced Organic Mental Disorders

Surgical and Medical Partitioning

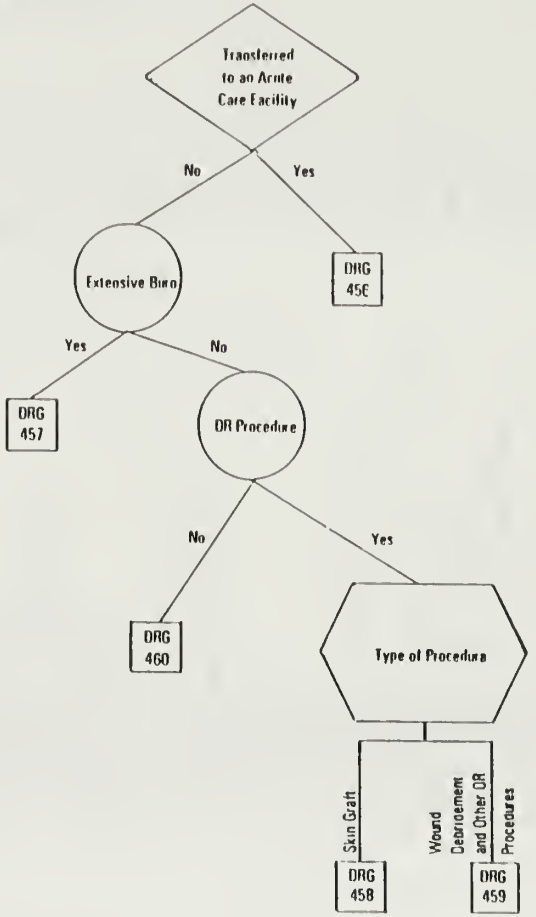


Operating room procedures are interspersed in the above DRGs


MDC 21: Injury, Poisoning, and Toxic Effects of Drugs
Surgical and Medical Partitioning
OR Procedure
Yes
No
Procedure Category
Principal Diagnosis
Skin Graft
Wound Debridement
Hand
Other OR Procedures
Trauma
Allergic Reaction
Drugs
Complications of Treatment
Other Diagnoses
ORG 439
ORG 440
ORG 441
Age 70 CC
Age
Age
Age
Age 70 CC
Age 70 CC
Yes
No
18+
0-17
18+
0-17
18+
0-17
Yes
No
Yes
No
ORG 442
ORG 443
Age 70 CC
ORG 448
ORG 447
ORG 448
Age 70 CC
ORG 451
ORG 452
ORG 453
ORG 454
ORG 455
Yes
No
Yes
No
ORG 444
ORG 445
ORG 449
ORG 450

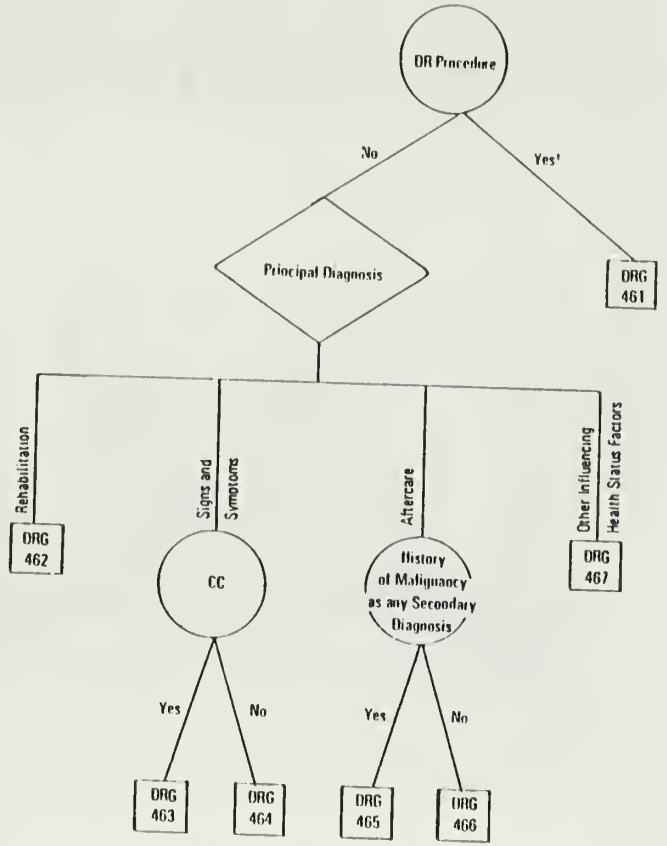
MDC 22: Burns

Surgical and Medical Partitioning



MDC 23: Factors Influencing Health Status and Other Contacts with Health Services

Surgical and Medical Partitioning



All operating room procedure codes are allowable

APPENDIX C

DIAGNOSIS RELATED GROUPS AND SELECTED RELATIVE WEIGHTS

ORG	MDC	TYPE	TITLE	HCFA 1983 RELATIVE WEIGHT	HCFA 1983 ALOS	HCFA 1983 CUT OFF
001	001	S	CRANIOTOMY AGE >17 EXCEPT FOR TRAUMA	3.3548	19.4	39
002	001	S	CRANIOTOMY FOR TRAUMA AGE >17	3.2829	15.8	36
003	001	S	CRANIOTOMY AGE <18	2.9489	12.7	33
004	001	S	SPINAL PROCEDURES	2.2452	16.0	36
005	001	S	EXTRACRANIAL VASCULAR PROCEDURES	1.6780	9.8	30
006	001	S	CARPAL TUNNEL RELEASE	.3993	2.6	8
007	001	S	PERIPH + CRANIAL NERVE + OTHER NERV SYST PROC AGE >69 +/OR C. C.	1.0279	5.3	25
008	001	S	PERIPH + CRANIAL NERVE + OTHER NERV SYST PROC AGE <70 W/O C. C.	.7239	4.1	23
009	001	M	SPINAL DISORDERS + INJURIES	1.3958	9.1	29
010	001	M	NERVOUS SYSTEM NEOPLASMS AGE >69 AND/OR C. C.	1.3087	9.6	30
011	001	M	NERVOUS SYSTEM NEOPLASMS AGE <70 W/O C. C.	1.2545	8.5	29
012	001	M	DEGENERATIVE NERVOUS SYSTEM DISORDERS	1.1136	9.4	29
013	001	M	MULTIPLE SCLEROSIS + CEREBELLAR ATAXIA	1.0150	8.9	29
014	001	M	SPECIFIC CEREBROVASCULAR DISORDERS EXCEPT TIA	1.3527	9.9	30
015	001	M	TRANSIENT ISCHEMIC ATTACKS	.6673	5.6	24
016	001	M	NONSPECIFIC CEREBROVASCULAR DISORDERS WITH C. C.	.8592	7.4	27
017	001	M	NONSPECIFIC CEREBROVASCULAR DISORDERS W/O C. C.	.8392	7.2	27
018	001	M	CRANIAL + PERIPHERAL NERVE DISORDERS AGE >69 AND/OR C. C.	.7915	6.6	27
019	001	M	CRANIAL + PERIPHERAL NERVE DISORDERS AGE <70 W/O C. C.	.6975	5.7	26
020	001	M	NERVOUS SYSTEM INFECTION EXCEPT VIRAL MENINGITIS	1.3141	7.6	28
021	001	M	VIRAL MENINGITIS	.6301	4.5	15
022	001	M	HYPERTENSIVE ENCEPHALOPATHY	.7869	6.4	26
023	001	M	NONTRAUMATIC STUPOR + COMA	1.1568	5.9	26
024	001	M	SEIZURE + HEADACHE AGE >69 AND/OR C. C.	.7279	5.6	26
025	001	M	SEIZURE + HEADACHE AGE 18-69 W/O C. C.	.6392	4.9	25
026	001	M	SEIZURE + HEADACHE AGE 0-17	.4349	3.3	13
027	001	M	TRAUMATIC STUPOR + COMA, COMA>1 HR	1.1368	4.1	24
028	001	M	TRAUMATIC STUPOR + COMA, COMA <1 HR AGE >69 AND/OR C. C.	1.0701	5.9	26
029	001	M	TRAUMATIC STUPOR + COMA <1 HR AGE 18-69 W/O C. C.	.7175	3.8	24
030	001	M	TRAUMATIC STUPOR + COMA <1 HR AGE 0-17	.3576	2.0	08
031	001	M	CONCUSSION AGE >65 AND/OR C. C.	.6051	4.6	25
032	001	M	CONCUSSION AGE 18 - 69 W/O C. C.	.4519	3.3	19
033	001	M	CONCUSSION AGE 0-17	.2483	1.6	05
034	001	M	OTHER DISORDERS OF NERVOUS SYSTEM AGE >69 AND/OR C. C.	.9927	7.1	27
035	001	M	OTHER DISORDERS OF NERVOUS SYSTEM AGE <70 W/O C. C.	.8460	6.2	26
036	002	S	RETINAL PROCEDURES	.7093	5.0	15
037	002	S	ORBITAL PROCEDURES	.5630	3.4	11
038	002	S	PRIMARY IRIS PROCEDURES	.4325	3.0	9
039	002	S	LENS PROCEDURES	.5010	2.8	6
040	002	S	EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE >17	.3977	2.4	7
041	002	S	EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE 0-17	.3695	1.6	4
042	002	S	INTRAOCULAR PROCEDURES EXCEPT RETINA, IRIS + LENS	.5906	3.8	12
043	002	M	HYPHEMA	.3828	4.2	12
044	002	M	ACUTE MAJOR EYE INFECTIONS	.6298	6.5	22
045	002	M	NEUROLOGICAL EYE DISORDERS	.5641	4.3	18
046	002	M	OTHER DISORDERS OF THE EYE AGE >17 WITH C.C	.5964	4.1	23
047	002	M	OTHER DISORDERS OF THE EYE AGE >17 W/O C.C	.5064	3	12
048	002	M	OTHER DISORDERS OF THE EYE AGE 0-17	.4060	2.9	13
049	003	S	MAJOR HEAD + NECK PROCEDURES	2.5270	13.6	34
050	003	S	SIALADENECTOMY	.7160	4.6	14

DIAGNOSIS RELATED GROUPS AND SELECTED RELATIVE WEIGHTS

ORG	MDC	TYPE	TITLE	HCFA 1983 RELATIVE WEIGHT	HCFA 1983 ALOS	HCFA 1983 CUT OFF
051	003	S	SALIVARY GLAND PROCEDURES EXCEPT SIALOADENECTOMY	.6702	4.2	15
052	003	S	CLEFT LIP + PALATE REPAIR	0.6488	3.8	11
053	003	S	SINUS + MASTOID PROCEDURES AGE)17	0.5895	3.5	11
054	003	S	SINUS + MASTOID PROCEDURES AGE 0-17	0.6961	3.2	11
055	003	S	MISCELLANEOUS EAR, NOSE + THROAT PROCEDURES	0.4153	2.5	7
056	003	S	RHINOPLASTY	0.4144	2.8	8
057	003	S	T + A PROC EXCEPT TONSILLECTOMY +/OR ADENOIDECTOMY AGE)17	0.5251	2.7	9
058	003	S	T + A PROC EXCEPT TONSILLECTOMY +/OR ADENOIDECTOMY AGE 0-17	0.313	1.5	3
059	003	S	TONSILLECTOMY AND/OR ADENOIDECTOMY ONLY AGE)17	0.3147	2	4
060	003	S	TONSILLECTOMY AND/OR ADENOIDECTOMY ONLY AGE 0-17	0.2643	1.5	3
061	003	S	MYRINGOTOMY AGE)17	0.4273	2.1	9
062	003	S	MYRINGOTOMY AGE 0-17	0.3121	1.3	3
063	003	S	OTHER EAR, NOSE + THROAT O.R. PROCEDURES	1.109	5.8	26
064	003	M	EAR, NOSE + THROAT MALIGNANCY	1.0812	5.7	26
065	003	M	DISEQUILIBRIUM	0.4857	4.6	17
066	003	M	EPISTAXIS	0.4116	3.7	15
067	003	M	EPIGLOTTIS	0.6762	4.3	17
068	003	M	OTITIS MEDIA + URI AGE)69 AND/OR C. C.	0.6289	6	22
069	003	M	OTITIS MEDIA + URI AGE 18-65 W/O C. C.	0.5417	4.8	19
070	003	M	OTITIS MEDIA + URI AGE 0-17	0.3697	3.1	10
071	003	M	LARYNGOTRACHEITIS	0.3589	2.9	9
072	003	M	NASAL TRAUMA + DEFORMITY	0.4857	3.8	18
073	003	M	OTHER EAR, NOSE + THROAT DIAGNOSES AGE)17	0.5217	3.5	17
074	003	M	OTHER EAR, NOSE + THROAT DIAGNOSES AGE 0-17	0.3463	2.1	9
075	004	S	MAJOR CHEST PROCEDURES	2.6044	14.4	34
076	004	S	O.R. PROC ON THE RESP SYSTEM EXCEPT MAJOR CHEST WITH C. C.	1.8734	10.6	31
077	004	S	O.R. PROC ON THE RESP SYSTEM EXCEPT MAJOR CHEST W/O C. C.	1.8178	9.5	30
078	004	M	PULMONARY EMBOLISM	1.4095	10.4	30
079	004	M	RESPIRATORY INFECTIONS + INFLAMMATIONS AGE)69 AND/OR C. C.	1.7982	11.2	31
080	004	M	RESPIRATORY INFECTIONS + INFLAMMATIONS AGE 18-69 W/O C. C.	1.7445	10.9	31
081	004	M	RESPIRATORY INFECTIONS + INFLAMMATIONS AGE 0-17	0.8743	6.1	26
082	004	M	RESPIRATORY NEOPLASMS	1.14	7.4	27
083	004	M	MAJOR CHEST TRAUMA AGE)69 AND/OR C.C.	0.9809	8.1	26
084	004	M	MAJOR CHEST TRAUMA AGE (70 W/O C. C.	0.7738	5.3	22
085	004	M	PLEURAL EFFUSION AGE)69 AND/OR C. C.	1.1461	8.4	28
086	004	M	PLEURAL EFFUSION AGE (70 W/O C. C.	1.1217	7.6	28
087	004	M	PULMONARY EDEMA + RESPIRATORY FAILURE	1.5529	7.7	28
088	004	M	CHRONIC OBSTRUCTIVE PULMONARY DISEASE	1.0412	7.5	28
089	004	M	SIMPLE PNEUMONIA + PLEURISY AGE)69 AND/OR C. C.	1.1029	8.5	29
090	004	M	SIMPLE PNEUMONIA + PLEURISY AGE 18-69 W/O C. C.	0.9849	7.6	28
091	004	M	SIMPLE PNEUMONIA + PLEURISY AGE 0-17	0.5131	4.6	14
092	004	M	INTERSTITIAL LUNG DISEASE AGE)69 AND/OR C. C.	1.037	7.8	28
093	004	M	INTERSTITIAL LUNG DISEASE AGE (70 W/O C. C.	0.9724	6.9	27
094	004	M	PNEUMOTHORAX AGE)69 AND/OR C. C.	1.4374	9.2	29
095	004	M	PNEUMOTHORAX AGE (70 W/O C. C.	1.1252	7.7	28
096	004	M	BRONCHITIS + ASTHMA AGE)69 AND/OR C. C.	0.7996	6.9	24
097	004	M	BRONCHITIS + ASTHMA AGE 18-69 W/O C. C.	0.7256	6.2	21
098	004	M	BRONCHITIS + ASTHMA AGE 0-17	0.4275	3.7	11
099	004	M	RESPIRATORY SIGNS + SYMPTOMS AGE)69 AND/OR C. C.	0.8035	5.5	26
100	004	M	RESPIRATORY SIGNS + SYMPTOMS AGE (70 W/O C. C.	0.773	5.1	24

DIAGNOSIS RELATED GROUPS AND SELECTED RELATIVE WEIGHTS

DRG	MDC	TYPE	TITLE	HCFA 1983 RELATIVE WEIGHT	HCFA 1983 ALOS	HCFA 1983 CUT OFF
101	004	M	OTHER RESPIRATORY DIAGNOSES AGE >69 AND/OR C. C.	0.9035	6.8	27
102	004	M	OTHER RESPIRATORY DIAGNOSES AGE <70	0.9024	6.1	26
103	005	S	HEART TRANSPLANT	0	0	0
104	005	S	CARDIAC VALVE PROCEDURE WITH PUMP + WITH CARDIAC CATH	6.8527	20.9	41
105	005	S	CARDIAC VALVE PROCEDURE WITH PUMP + W/O CARDIAC CATH	5.2308	16.2	36
106	005	S	CORONARY BYPASS WITH CARDIAC CATH	5.2624	20.4	40
107	005	S	CORONARY BYPASS W/O CARDIAC CATH	3.9891	13.5	34
108	005	S	CARDIOTHOR PROC, EXCEPT VALVE + CORONARY BYPASS, WITH PUMP	4.3756	13.3	33
109	005	S	CARDIOTHORACIC PROCEDURES W/O PUMP	3.6963	12.1	32
110	005	S	MAJOR RECONSTRUCTIVE VASCULAR PROCEDURES AGE >69 AND/OR C. C.	2.9328	14.3	34
111	005	S	MAJOR RECONSTRUCTIVE VASCULAR PROCEDURES AGE <70 W/O C. C.	2.5851	13.2	33
112	005	S	VASCULAR PROCEDURES EXCEPT MAJOR RECONSTRUCTION	2.35	11.2	31
113	005	S	AMPUTATION FOR CIRC SYSTEM DISORDERS EXCEPT UPPER LIMB + TOE	2.68	21.6	42
114	005	S	UPPER LIMB + TOE AMPUTATION FOR CIRC SYSTEM DISORDERS	2.1067	16.6	37
115	005	S	PERMANENT CARDIAC PACEMAKER IMPLANT WITH AMI OR CHF	3.915	15.8	36
116	005	S	PERMANENT CARDIAC PACEMAKER IMPLANT W/O AMI OR CHF	2.8665	9.3	29
117	005	S	CARDIAC PACEMAKER REPLACE + REVIS EXC PULSEGEN REPL ONLY	1.821	6.4	26
118	005	S	CARDIAC PACEMAKER PULSE GENERATOR REPLACEMENT ONLY	1.7809	4.2	18
119	005	S	VEIN LIGATION + STRIPPING	1.061	7.2	27
120	005	S	OTHER O.R. PROCEDURES ON THE CIRCULATORY SYSTEM	2.5204	15	35
121	005	M	CIRCULATORY DISORDERS WITH AMI + C.V. COMP. DISCH. ALIVE	1.8648	11.9	32
122	005	M	CIRCULATORY DISORDERS WITH AMI W/O C.V. COMP. DISCH. ALIVE	1.3651	9.8	30
123	005	M	CIRCULATORY DISORDERS WITH AMI, EXPIRED	1.136	3.1	23
124	005	M	CIRCULATORY DISORDERS EXC AMI, WITH CARD CATH + COMPLEX DIAG	2.22	8.4	28
125	005	M	CIRCULATORY DISORDERS EXC AMI, WITH CARD CATH W/O COMPLEX DIAG	1.6455	5	25
126	005	M	ACUTE + SUBACUTE ENDOCARDITIS	2.6645	18.4	38
127	005	M	HEART FAILURE + SHOCK	1.0408	7.8	28
128	005	M	DEEP VEIN THROMBOPHLEBITIS	0.8639	9.6	28
129	005	M	CARDIAC ARREST	1.5506	4.6	25
130	005	M	PERIPHERAL VASCULAR DISORDERS AGE >69 AND/OR C. C.	0.9645	7.1	27
131	005	M	PERIPHERAL VASCULAR DISORDERS AGE <70 W/O C. C.	0.9491	6.4	26
132	005	M	ATHEROSCLEROSIS AGE >69 AND/OR C. C.	0.9182	6.7	27
133	005	M	ATHEROSCLEROSIS AGE <70 W/O C. C.	0.8599	5.2	25
134	005	M	HYPERTENSION	0.7049	6.1	26
135	005	M	CARDIAC CONGENITAL + VALVULAR DISORDERS AGE >69 AND/OR C. C.	0.9922	6.1	26
136	005	M	CARDIAC CONGENITAL + VALVULAR DISORDERS AGE 18-69 W/O C. C.	0.9674	4.9	25
137	005	M	CARDIAC CONGENITAL + VALVULAR DISORDERS AGE 0-17	0.6381	3.3	20
138	005	M	CARDIAC ARRHYTHMIA + CONDUCTION DISORDERS AGE >69 AND/OR C. C.	0.9297	5.7	26
139	005	M	CARDIAC ARRHYTHMIA + CONDUCTION DISORDERS AGE <70 W/O C. C.	0.8303	4.8	23
140	005	M	ANGINA PECTORIS	0.7548	5.5	21
141	005	M	SYNCOPE + COLLAPSE AGE >69 AND/OR C. C.	0.6475	5	21
142	005	M	SYNCOPE + COLLAPSE AGE <70 W/O C. C.	0.568	4.3	18
143	005	M	CHEST PAIN	0.6814	4.4	19
144	005	M	OTHER CIRCULATORY DIAGNOSES WITH C. C.	1.1267	7	27
145	005	M	OTHER CIRCULATORY DIAGNOSES W/O C. C.	1.002	6.4	26
146	006	S	RECTAL RESECTION AGE >69 AND/OR C. C.	2.7082	19.1	39
147	006	S	RECTAL RESECTION AGE <70 W/O C. C.	2.5087	17.9	38
148	006	S	MAJOR SMALL + LARGE BOWEL PROCEDURES AGE >69 AND/OR C. C.	2.5493	17	37
149	006	S	MAJOR SMALL + LARGE BOWEL PROCEDURES AGE <70 W/O C. C.	2.2154	15.2	35
150	006	S	PERITONEAL ADHESIOLYSIS AGE >69 AND/OR C. C.	2.3746	15.3	35

DIAGNOSIS RELATED GROUPS AND SELECTED RELATIVE WEIGHTS

DRG	MDC	TYPE	TITLE	HCFA 1983 RELATIVE WEIGHT	HCFA 1983 ALOS	HCFA 1983 CUT OFF
151	006	S	PERITONEAL ADHESIOLYSIS AGE (70 W/O C. C.	2.0274	13.4	33
152	006	S	MINOR SMALL + LARGE BOWEL PROCEDURES AGE)69 AND/OR C. C.	1.4851	10.6	31
153	006	S	MINOR SMALL + LARGE BOWEL PROCEDURES AGE (70 W/O C. C.	1.2599	9.3	29
154	006	S	STOMACH, ESOPHAGEAL + DUODENAL PROCEDURES AGE)69 AND/OR C. C.	2.6901	14.8	35
155	006	S	STOMACH, ESOPHAGEAL + DUODENAL PROCEDURES AGE 18-69 W/O C. C.	2.3336	13	33
156	006	S	STOMACH, ESOPHAGEAL + DUODENAL PROCEDURES AGE 0-17	0.847	6	20
157	006	S	ANAL PROCEDURES AGE)69 AND/OR C. C.	0.7985	6	25
158	006	S	ANAL PROCEDURES AGE (70 W/O C. C.	0.6408	5.2	19
159	006	S	HERNIA PROCEDURES EXCEPT INGUINAL + FEMORAL AGE)69 AND/OR C. C.	0.9297	7.1	23
160	006	S	HERNIA PROCEDURES EXCEPT INGUINAL + FEMORAL AGE 18-69 W/O C. C.	0.7676	6	18
161	006	S	INGUINAL + FEMORAL HERNIA PROCEDURES AGE)69 AND/OR C. C.	0.7068	5.7	16
162	006	S	INGUINAL + FEMORAL HERNIA PROCEDURES AGE 18-69 W/O C. C.	0.5854	4.8	12
163	006	S	HERNIA PROCEDURES AGE 0-17	0.4358	2.1	6
164	006	S	APPENDECTOMY WITH COMPLICATED PRINC. DIAG AGE)69 AND/OR C. C.	1.832	11.9	32
165	006	S	APPENDECTOMY WITH COMPLICATED PRINC. DIAG AGE (70 W/O C. C.	1.6154	11.3	29
166	006	S	APPENDECTOMY W/O COMPLICATED PRINC. DIAG AGE)69 AND/OR C. C.	1.4328	9.4	29
167	006	S	APPENDECTOMY W/O COMPLICATED PRINC. DIAG AGE (70 W/O C. C.	1.0818	7.4	22
168	006	S	PROCEDURES ON THE MOUTH AGE)65 AND/OR C.C.	0.8631	4.3	24
169	006	S	PROCEDURES ON THE MOUTH AGE (70 W/O C. C.	0.8992	4.2	24
170	006	S	OTHER DIGESTIVE SYSTEM PROCEDURES AGE)69 AND/OR C. C.	2.6602	14.6	35
171	006	S	OTHER DIGESTIVE SYSTEM PROCEDURES AGE (70 W/O C. C.	2.3976	13.3	33
172	006	M	DIGESTIVE MALIGNANCY AGE)69 AND/DR C. C.	1.2268	8.2	28
173	006	M	DIGESTIVE MALIGNANCY AGE (70 W/O C. C.	1.0517	6.7	27
174	006	M	HEMORRHAGE AGE)69 AND/OR C. C.	0.9281	6.7	27
175	006	M	G.I. HEMORRHAGE AGE (70 W/O C. C.	0.8236	5.8	24
176	006	M	COMPLICATED PEPTIC ULCER	1.2438	8.1	28
177	006	M	UNCOMPLICATED PEPTIC ULCER)69 AND/OR C. C.	0.7422	6.6	24
178	006	M	UNCOMPLICATED PEPTIC ULCER (70 W/O C. C.	0.6141	5.5	20
179	006	M	INFLAMMATORY BOWEL DISEASE	1.0153	8	28
180	006	M	G.I. OBSTRUCTION AGE)69 AND/OR C. C.	0.8197	6.2	26
181	006	M	G.I. OBSTRUCTION AGE (70 W/O C. C.	0.7845	5.9	26
182	006	M	ESOPHAGITIS, GASTROENT, + MISC. DIGEST. DIS AGE)69 +/OR C. C.	0.6185	5.4	22
183	006	M	ESOPHAGITIS, GASTROENT. + MISC. DIGEST, DIS AGE 18-69 W/O C. C.	0.5652	4.8	19
184	006	M	ESOPHAGITIS, GASTROENTERITIS + MISC. DIGEST. DISORDERS AGE 0-17	0.3822	3.3	11
185	006	M	DENTAL + ORAL DIS, EXC EXTRACTIONS + RESTORATIONS, AGE)17	0.6681	4.2	24
186	006	M	DENTAL + ORAL DIS, EXC EXTRACTIONS + RESTORATIONS, AGE 0-17	0.4155	2.9	11
187	006	M	DENTAL EXTRACTIONS + RESTORATIONS	0.399	2.7	8
188	006	M	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE)69 AND/OR C. C.	0.7444	5.1	25
189	006	M	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE 18-69 W/O C. C.	0.6576	4.5	23
190	006	M	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE 0-17	0.3379	2.1	8
191	007	S	MAJOR PANCREAS, LIVER + SHUNT PROCEDURES	4.1791	20.8	41
192	007	S	MINOR PANCREAS, LIVER + SHUNT PROCEDURES	3.9197	20.1	40
193	007	S	BILIARY TRACT PROC EXC TOT CHOLECYSTECTOMY AGE)69 +/OR C. C.	2.4513	17.3	37
194	007	S	BILIARY TRACT PROC EXC TOT CHOLECYSTECTOMY AGE (70 W/O C. C.	1.9881	13.9	34
195	007	S	TOTAL CHOLECYSTECTOMY WITH C.D.E. AGE)69 AND/OR C. C.	2.169	16	36
196	007	S	TOTAL CHOLECYSTECTOMY WITH C.D.E. AGE (70 W/O C. C.	2.0594	15.8	36
197	007	S	TOTAL CHOLECYSTECTOMY W/O C.D.E. AGE)69 AND/OR C. C.	1.4868	11.5	29
198	007	S	TOTAL CHOLECYSTECTOMY W/O C.D.E. AGE (70 W/O C. C.	1.2752	10.1	24
199	007	S	HEPATOBILIARY DIAGNOSTIC PROCEDURE FOR MALIGNANCY	2.4574	17.9	38
200	007	S	HEPATOBILIARY DIAGNOSTIC PROCEDURE FOR NON-MALIGNANCY	2.5818	15.1	35

DIAGNOSIS RELATED GROUPS AND SELECTED RELATIVE WEIGHTS

DRG	MDC	TYPE	TITLE	HCFA 1983 RELATIVE WEIGHT	HCFA 1983 ALOS	HCFA 1983 CUT OFF
201	007	S	OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES	2.7291	16.9	37
202	007	M	CIRRHOSIS + ALCOHOLIC HEPATITIS	1.1965	9.3	29
203	007	M	MALIGNANCY OF HEPATOBILIARY SYSTEM OR PANCREAS	1.0937	8	28
204	007	M	DISORDERS OF PANCREAS EXCEPT MALIGNANCY	0.9682	7.5	28
205	007	M	DISORDERS OF LIVER EXC MALIG, CIRR, ALC HEPA AGE >69 AND/OR C. C.	1.0822	7.9	28
206	007	M	DISORDERS OF LIVER EXC MALIG, CIRR, ALC HEPA AGE <70 W/O C. C.	0.9247	6.8	27
207	007	M	DISORDERS OF THE BILIARY TRACT AGE >69 AND/OR C. C.	0.8492	6.6	27
208	007	M	DISORDERS OF THE BILIARY TRACT AGE <70 W/O C. C.	0.7315	5.5	24
209	008	S	MAJOR JOINT PROCEDURES	2.2912	17.1	37
210	008	S	HIP + FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE >69 AND/OR C. C.	2.0833	17.8	38
211	008	S	HIP + FEMURE PROCEDURES EXCEPT MAJOR JOINT AGE 18-69 W/O C. C.	1.953	15.9	36
212	008	S	HIP + FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE 0-17	1.7132	11.1	31
213	008	S	AMPUTATIONS FOR MUSCULOSKELETAL SYSTEM + CONN. TISSUE DISORDERS	2.1315	14.3	34
214	008	S	BACK + NECK PROCEDURES AGE >69 AND/OR C. C.	1.8427	15.6	36
215	008	S	BACK + NECK PROCEDURES AGE <70 W/O C. C.	1.492	13	33
216	008	S	BIOPSIES OF MUSCULOSKELETAL SYSTEM + CONNECTIVE TISSUE	1.5596	11.3	31
217	008	S	WND DEBRID + SKN GRFT EXC HAND, FOR MUSCULOSKELETAL + CONN. TISS. DI	2.2824	13.1	33
218	008	S	LOWER EXTREM + HUMER PROC EXC HIP, FOOT, FEMUR AGE >69 +/OR C. C.	1.425	10.9	31
219	008	S	LOWER EXTREM + HUMER PROC EXC HIP, FOOT, FEMUR AGE 18-69 W/O C. C.	1.079	8.3	27
220	008	S	LOWER EXTREM + HUMER PROC EXC HIP, FOOT, FEMUR AGE 0-17	0.9339	5.3	25
221	008	S	KNEE PROCEDURES AGE >69 AND/OR C. C.	1.2727	8.3	28
222	008	S	KNEE PROCEDURES AGE <70 W/O C. C.	0.9897	6.4	26
223	008	S	UPPER EXTREMITY PROC EXC HUMERUS + HAND AGE >69 AND/OR C. C.	1.0723	6.9	27
224	008	S	UPPER EXTREMITY PROC EXC HUMERUS + HAND AGE <70 W/O C. C.	0.8952	5.6	24
225	008	S	FOOT PROCEDURES	0.6476	4.8	15
226	008	S	SOFT TISSUE PROCEDURES AGE >69 AND/OR C. C.	0.7984	5.1	25
227	008	S	SOFT TISSUE PROCEDURES AGE <70 W/O C. C.	0.6337	4.2	18
228	008	S	GANGLION (HAND) PROCEDURES	0.3626	2.2	7
229	008	S	HAND PROCEDURES EXCEPT GANGLION	0.5998	3.4	14
230	008	S	LOCAL EXCISION + REMOVAL OF INT FIX DEVICES OF HIP + FEMUR	1.3594	8.9	29
231	008	S	LOCAL EXCISION + REMOVAL OF INT FIX DEVICES EXCEPT HIP + FEMUR	0.9519	5.3	25
232	008	S	ARTHROSCOPY	0.6063	3.6	15
233	008	S	OTHER MUSCULOSKELET SYS + CONN TISS O.R. PROC AGE >69 +/OR C. C.	1.7737	13.1	33
234	008	S	OTHER MUSCULOSKELET SYS + CONN TISS O.R. PROC AGE <70 W/O C. C.	1.2454	8.2	28
235	008	M	FRACTURES OF FEMUR	1.7586	13.6	34
236	008	M	FRACTURES OF HIP + PELVIS	1.3855	11.9	32
237	008	M	SPRAINS, STRAINS, + DISLOCATIONS OF HIP, PELVIS + THIGH	0.7929	6.4	26
238	008	M	OSTEOMYELITIS	1.5511	12.3	32
239	008	M	PATHOLOGICAL FRACTURES + MUSCULOSKELETAL + CONN. TISS. MALIGNANCY	1.0979	9.2	29
240	008	M	CONNECTIVE TISSUE DISORDERS AGE >69 AND/OR C. C.	0.9709	8.6	29
241	008	M	CONNECTIVE TISSUE DISORDERS AGE <70 W/O C. C.	0.9048	8	28
242	008	M	SEPTIC ARTHRITIS	1.588	11.2	31
243	008	M	MEDICAL BACK PROBLEMS	0.7551	7.5	28
244	008	M	BONE DISEASES + SEPTIC ARTHROPATHY AGE >69 AND/OR C. C.	0.7792	7.5	28
245	008	M	BONE DISEASES + SEPTIC ARTHROPATHY AGE <70 W/O C. C.	0.7177	6.3	26
246	008	M	NON-SPECIFIC ARTHROPATHIES	0.7147	6.8	27
247	008	M	SIGNS + SYMPTOMS OF MUSCULOSKELETAL SYSTEM + CONN TISSUE	0.6559	5.8	26
248	008	M	TENDONITIS, MYOSITIS + BURSITIS	0.6136	5.4	24
249	008	M	AFTERCARE, MUSCULOSKELETAL SYSTEM + CONNECTIVE TISSUE	1.0203	7.6	28
250	008	M	FX, SPRNS, STRNS + DISL OF FOREARM, HAND, FOOT AGE >69 +/OR C. C.	0.7428	6	26

DIAGNOSIS RELATED GROUPS AND SELECTED RELATIVE WEIGHTS

DRG	MDC	TYPE	TITLE	HCFA 1983 RELATIVE WEIGHT	HCFA 1983 ALOS	HCFA 1983 CUT OFF
251	008	M	FX, SPRNS, STRNS + DISL OF FOREARM, HAND, FOOT AGE 18-69 W/O C. C.	0.5964	4.2	24
252	008	M	FX, SPRNS, STRNS + DISL OF FOREARM, HAND, FOOT AGE 0-17	0.3533	1.8	7
253	008	M	FX, SPRNS, STRNS + DISL OF UPARM, LOWLEG EX FOOT AGE >69 +/OR C. C.	0.7466	6.6	27
254	008	M	FX, SPRNS, STRNS + DISL OF UPARM, LOWLEG EX FOOT AGE 18-69 W/O C. C.	0.6258	5.3	25
255	008	M	FX, SPRNS, STRNS + DISL OF UPARM, LOWLEG EX FOOT AGE 0-17	0.4067	2.9	15
256	008	M	OTHER DIAGNOSES OF MUSCULOSKELETAL SYSTEM + CONNECTIVE TISSUE	0.6706	6.5	27
257	009	S	TOTAL MASTECTOMY FOR MALIGNANCY AGE >69 AND/OR C. C.	1.1085	9.3	23
258	009	S	TOTAL MASTECTOMY FOR MALIGNANCY AGE <70 W/O C. C.	1.0729	8.9	21
259	009	S	SUBTOTAL MASTECTOMY FOR MALIGNANCY AGE >69 AND/OR C. C.	1.0141	7.4	27
260	009	S	SUBTOTAL MASTECTOMY FOR MALIGNANCY AGE <70	0.9325	6.4	26
261	009	S	BREAST PROC FOR NON-MALIG EXCEPT BIOPSY + LOC EXC	0.7329	4.8	19
262	009	S	BREAST BIOPSY + LOCAL EXCISION FOR NON-MALIGNANCY	0.4617	3	10
263	009	S	SKIN GRAFTS FOR SKIN ULCER OR CELLULITIS AGE >69 AND/OR C. C.	2.4737	21.3	41
264	009	S	SKIN GRAFTS FOR SKIN ULCER OR CELLULITIS AGE <70 W/O C. C.	2.2031	18.2	38
265	009	S	SKIN GRAFTS EXCEPT FOR SKIN ULCER OR CELLULITIS WITH C. C.	1.4959	8.6	29
266	009	S	SKIN GRAFTS EXCEPT FOR SKIN ULCER OR CELLULITIS W/O C. C.	0.9485	5.9	26
267	009	S	PERIANAL + PILONICAL PROCEDURES	0.6113	5	18
268	009	S	SKIN, SUBCUTANEOUS TISSUE + BREAST PLASTIC PROCEDURES	0.5388	3	15
269	009	S	OTHER SKIN, SUBCUT TISS + BREAST O.R. PROC AGE >69 +/OR C. C.	0.9947	5.7	26
270	009	S	OTH SKIN, SUBCUT TISS + BREAST O.R. PROC AGE <70 W/O C. C.	0.8123	4.5	25
271	009	M	SKIN ULCERS	1.3802	12.1	32
272	009	M	MAJOR SKIN DISORDERS AGE >69 AND/OR C. C.	0.862	7.8	28
273	009	M	MAJOR SKIN DISORDERS AGE <70 W/O C. C.	0.8286	7.3	27
274	009	M	MALIGNANT BREAST DISORDERS AGE >69 AND/OR C. C.	1.0108	7.5	28
275	009	M	MALIGNANT BREAST DISORDERS AGE <70 W/O C. C.	0.9014	6.4	26
276	009	M	NON-MALIGNANT BREAST DISORDERS	0.6066	4.2	22
277	009	M	CELLULITIS AGE >69 AND/OR C. C.	0.8863	8.3	28
278	009	M	CELLULITIS AGE 18-69 W/O C. C.	0.8096	7.2	27
279	009	M	CELLULITIS AGE 0-17	0.4789	4.2	13
280	009	M	TRAUMA TO THE SKIN, SUBCUT TISS + BREAST AGE >69 +/OR C. C.	0.6201	5.4	25
281	009	M	TRAUMA TO THE SKIN, SUBCUT TISS + BREAST AGE 18-69 W/O C. C.	0.5377	4.2	23
282	009	M	TRAUMA TO THE SKIN, SUBCUT TISS + BREAST AGE 0-17	0.346	2.2	9
283	009	M	MINOR SKIN DISORDERS AGE >69 AND/OR C. C.	0.6394	5.3	25
284	009	M	MINOR SKIN DISORDERS AGE <70 W/O C. C.	0.5971	4.4	24
285	010	S	AMPUTATIONS FOR ENDOCRINE, NUTRITIONAL + METABOLIC DISORDERS	2.8658	24	44
286	010	S	ADRENAL + PITUITARY PROCEDURES	2.8952	16.1	36
287	010	S	SKIN GRAFTS + WOUND DEBRIDE FOR ENDOC, NUTRIT + METAB DISORDERS	2.8143	22.8	43
288	010	S	O.R. PROCEDURES FOR OBESITY	1.5695	10	24
289	010	S	PARATHYROID PROCEDURES	1.3736	8.3	28
290	010	S	THYROID PROCEDURES	0.8549	6	17
291	010	S	THYROGLOSSAL PROCEDURES	0.4909	2.9	8
292	010	S	OTHER ENDOCRINE, NUTRIT + METAB O.R. PROC AGE >69 + OR C. C.	2.0307	10.8	31
293	010	S	OTHER ENDOCRINE, NUTRIT + METAB O.R. PROC AGE <70 W/O C. C.	1.4951	8	28
294	010	M	DIABETES AGE =>36	0.8087	7.7	28
295	010	M	DIABETES AGE 0-35	0.7457	5.6	26
296	010	M	NUTRITIONAL + MISC. METABOLIC DISORDERS AGE >69 AND/OR C. C.	0.8979	7.3	27
297	010	M	NUTRITIONAL + MISC. METABOLIC DISORDERS AGE 18-69 W/O C. C.	0.7923	6	26
298	010	M	NUTRITIONAL + MISC. METABOLIC DISORDERS AGE 0-17	0.7538	5.4	25
299	010	M	INBORN ERRORS OF METABOLISM	0.9407	6.8	27
300	010	M	ENDOCRINE DISORDERS AGE >69 AND/OR C. C.	0.9731	7.8	28

DIAGNOSIS RELATED GROUPS AND SELECTED RELATIVE WEIGHTS

DRG	MDC	TYPE	TITLE	HCFA 1983 RELATIVE WEIGHT	HCFA 1983 ALOS	HCFA 1983 CUT OFF
301	010	M	ENDOCRINE DISORDERS AGE (70 W/O C. C.	0.8143	6.4	26
302	011	S	KIDNEY TRANSPLANT	4.2279	24.1	44
303	011	S	KIDNEY, URETER + MAJOR BLADDER PROCEDURE FOR NEOPLASM	2.5397	16.2	36
304	011	S	KIDNEY, URETER + MAJ BLDRPROC FOR NON-MALIG AGE)69 +/OR C. C.	1.7952	12.8	33
305	011	S	KIDNEY, URETER + MAJ BLDR PROC FOR NON-MALIG (70 W/O C. C.	1.7043	11.9	32
306	011	S	PROSTATECTOMY AGE)69 AND/OR C. C.	1.1399	8.6	29
307	011	S	PROSTATECTOMY AGE (70 W/O C. C.	0.9513	7.2	26
308	011	S	MINOR BLADDER PROCEDURES AGE)69 AND/OR C. C.	1.0441	7.1	27
309	011	S	MINOR BLADDER PROCEDURES AGE (70 W/O C. C.	0.929	5.7	26
310	011	S	TRANSURETHRAL PROCEDURES AGE)69 AND/OR C. C.	0.7071	4.9	20
311	011	S	TRANSURETHRAL PROCEDURES AGE (70 W/O C. C.	0.5871	4.1	15
312	011	S	URETHRAL PROCEDURES, AGE)69 AND/OR C. C.	0.7424	5.2	22
313	011	S	URETHRAL PROCEDURES, AGE 18-69 W/O C. C.	0.6897	5.1	21
314	011	S	URETHRAL PROCEDURES, AGE 0-17	0.4368	2.3	11
315	011	S	OTHER KIDNEY + URINARY TRACT O.R. PROCEDURES	2.4884	9.8	30
316	011	M	RENAL FAILURE	1.3314	6.7	27
317	011	M	ADMIT FOR RENAL DIALYSIS	0.2385	1.2	3
318	011	M	KIDNEY + URINARY TRACT NEOPLASMS AGE)69 AND/OR C. C.	0.9142	5.5	26
319	011	M	KIDNEY + URINARY TRACT NEOPLASMS AGE (70 W/O C. C.	0.7942	4.2	24
320	011	M	KIDNEY + URINARY TRACT INFECTIONS AGE)69 AND/OR C. C.	0.8123	7	27
321	011	M	KIDNEY + URINARY TRACT INFECTIONS AGE 18-69 W/O C. C.	0.6803	5.6	23
322	011	M	KIDNEY + URINARY TRACTINFECTIONS AGE 0-17	0.4553	3.7	13
323	011	M	URINARY STONES AGE)69 AND/OR C. C.	0.7131	4.9	25
324	011	M	URINARY STONES AGE (70 W/O C. C.	0.5472	3.9	19
325	011	M	KIDNEY + URINARY TRACT SIGNS + SYMPTOMS AGE)69 AND/OR C. C.	0.7247	5.4	25
326	011	M	KIDNEY + URINARY TRACT SIGNS + SYMPTOMS AGE 18-69 W/O C. C.	0.5875	4.3	21
327	011	M	KIDNEY + URINARY TRACT SIGNS + SYMPTOMS AGE 0-17	0.5027	3.1	14
328	011	M	URETHRAL STRICTURE AGE)69 ND/OR C. C.	0.6508	4.8	22
329	011	M	URETHRAL STRICTURE AGE 18-65 W/O C. C.	0.5326	3.9	17
330	011	M	URETHRAL STRICTURE AGE 0-17	0.2817	1.6	5
331	011	M	OTHER KIDNEY + URINARY TRACT DIAGNOSES AGE)69 AND/OR C. C.	0.8919	6.3	26
332	011	M	OTHER KIDNEY + URINARY TRACT DIAGNOSES AGE 18-69 W/O C. C.	0.7763	5	25
333	011	M	OTHER KIDNEY + URINARY TRACT DIAGNOSES AGE 0-17	0.5146	3.2	18
334	012	S	MAJOR MALE PELVIC PROCEDURES WITH C. C.	1.5612	12.7	30
335	012	S	MAJOR MALE PELVIC PROCEDURES W/O C. C.	1.359	11.8	29
336	012	S	TRANSURETHRAL PROSTATECTOMY AGE)69 AND/OR C. C.	1.0079	8.4	22
337	012	S	TRANSURETHRAL PROSTATECTOMY AGE (70 W/O C. C.	0.8491	7.2	17
338	012	S	TESTES PROCEDURES, FOR MALIGNANCY	0.9096	6.3	26
339	012	S	TESTES PROCEDURES, NON-MALIGNANT AGE)17	0.6093	4.5	15
340	012	S	TESTES PROCEDURES, NON-MALIGNANT AGE 0-17	0.4381	2.4	7
341	012	S	PENIS PROCEDURES	0.9983	6	23
342	012	S	CIRCUMCISION AGE)17	0.4228	2.8	10
343	012	S	CIRCUMCISION AGE 0-17	0.3828	1.7	4
344	012	S	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROCEDURES FOR MALIGNANCY	1.1204	7.4	27
345	012	S	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXCEPT FOR MALIG	0.8334	5.6	26
346	012	M	MALIGNANCY, MALE REPRODUCTIVE SYSTEM, AGE)69 AND/OR C. C.	0.9395	6.9	27
347	012	M	MALIGNANCY, MALE REPRODUCTIVE SYSTEM, AGE (70 W/O C. C.	0.8304	5.7	26
348	012	M	BENIGN PROSTATIC HYPERTROPHY AGE)69 AND/OR C. C.	0.8864	6.2	26
349	012	M	BENIGN PROSTATIC HYPERTROPHY AGE (70 W/O C. C.	0.6998	4.9	22
350	012	M	INFLAMMATION OF THE MALE REPRODUCTIVE SYSTEM	0.6096	5.2	20

DIAGNOSIS RELATED GROUPS AND SELECTED RELATIVE WEIGHTS

DRG	MDC	TYPE	TITLE	HCFA 1983 RELATIVE WEIGHT	HCFA 1983 ALOS	HCFA 1983 CUT OFF
351	012	M	STERILIZATION, MALE	0.2655	1.3	3
352	012	M	OTHER MALE REPRODUCTIVE SYSTEM DIAGNOSES	0.6385	4.4	20
353	013	S	PELVIC EVISCERATION, RADICAL HYSTERECTOMY + VULVECTOMY	1.9376	12.4	32
354	013	S	NON-RADICAL HYSTERECTOMY AGE >69 AND/OR C. C.	1.1108	9.6	20
355	013	S	NON-RADICAL HYSTERECTOMY AGE <70 W/O C. C.	1.0156	8.8	17
356	013	S	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES	0.846	8.1	18
357	013	S	UTERUS + ADENEXA PROCEDURES, FOR MALIGNANCY	1.9188	13.9	34
358	013	S	UTERUS + ADENEXA PROC FOR NON-MALIGNANCY EXCEPT TUBAL INTERRUPT	1.089	8	218
359	013	S	TUBAL INTERRUPTION FOR NON-MALIGNANCY	0.4279	2.3	7
360	013	S	VAGINA, CERVIC + VULVA PROCEDURES	0.8985	4.2	19
361	013	S	LAPAROSCOPY + ENDOSCOPY (FEMALE) EXCEPT TUBAL INTERRUPTION	0.4864	2.6	10
362	013	S	LAPAROSCOPIC TUBAL INTERRUPTION	0.3126	1.4	3
363	013	S	D + C, CONIZATION + RADIO-IMPLNT, FOR MALIGNANCY	0.6516	4.3	18
364	013	S	D+C, CONIZATION EXCEPT FOR MALIGNANCY	0.4028	2.6	9
365	013	S	OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES	1.7965	12.7	33
366	013	M	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM AGE >69 AND/OR C. C.	0.8444	5.2	25
367	013	M	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM AGE <70 W/O C. C.	0.5786	3.5	24
368	013	M	INFECTIONS, FEMALE REPRODUCTIVE SYSTEM	0.7944	6.7	27
369	013	M	MENSTRUAL + OTHER FEMALE REPRODUCTIVE SYSTEM DISORDERS	0.6959	5.1	25
370	014	S	CESAREAN SECTION WITH C. C.	0.9912	7.6	15
371	014	S	CESAREAN SECTION W/O C. C.	0.7535	6.1	10
372	014	M	VAGINAL DELIVERY WITH COMPLICATING DIAGNOSES	0.5534	3.8	9
373	014	M	VAGINAL DELIVERY W/O COMPLICATING DIAGNOSES	0.4063	3.2	9
374	014	S	VAGINAL DELIVERY WITH STERILIZATION AND/OR D+C	0.5492	3.6	7
375	014	S	VAGINAL DELIVERY WITH O.R. PROC EXCEPT STERIL AND/OR D+C	0.6889	4.4	15
376	014	M	POSTPARTUM DIAGNOSES W/O O.R. PROCEDURE	0.4158	2.9	10
377	014	S	POSTPARTUM DIAGNOSES WITH O.R. PROCEDURE	0.4761	2.2	8
378	014	M	ECTOPIC PREGNANCY	0.8094	5.5	11
379	014	M	THREATENED ABORTION	0.3169	2.2	8
380	014	M	ABORTION W/O D+C	0.2705	1.5	4
381	014	M	ABORTION WITH D+C	0.3602	1.4	4
382	014	M	FALSE LABOR	0.1842	1.2	2
383	014	M	OTHER ANTEPARTUM DIAGNOSES WITH MEDICAL COMPLICATIONS	0.4317	3.4	14
384	014	M	OTHER ANTEPARTUM DIAGNOSES W/O MEDICAL COMPLICATIONS	0.3245	2.2	9
385	015		NEONATES, DIED OR TRANSFERRED	0.6883	1.8	14
386	015		EXTREME IMMATURITY, NEONATE	3.6863	17.9	38
387	015		PREMATURITY WITH MAJOR PROBLEMS	1.8459	13.3	33
388	015		PREMATURITY W/O MAJOR PROBLEMS	1.1693	8.6	29
389	015		FULL TERM NEONATE WITH MAJOR PROBLEMS	0.8482	4.7	16
390	015		NEONATES WITH OTHER SIGNIFICANT PROBLEMS	0.3523	3.4	9
391	015		NORMAL NEWBORNS	0.2241	3.1	7
392	016	S	SPLENECTOMY AGE >17	2.7746	16.4	36
393	016	S	SPLENECTOMY AGE 0-17	1.5366	9.1	29
394	016	S	OTHER O.R. PROCEDURES OF THE BLOOD + BLOOD FORMING ORGANS	1.1146	6.1	26
395	016	M	RED BLOOD CELL DISORDERS AGE >17	0.7839	6.1	26
396	016	M	RED BLOOD CELL DISORDERS AGE 0-17	0.6295	4.1	18
397	016	M	COAGULATION DISORDERS	0.9863	6.7	27
398	016	M	RETICULOENDOTHELIAL + IMMUNITY DISORDERS AGE >69 AND/OR C. C.	0.89	6.1	26
399	016	M	RETICULOENDOTHELIAL + IMMUNITY DISORDERS AGE <70 W/O C. C.	0.8459	5.6	26
400	017	S	LYMPHOMA OR LEUKEMIA WITH MAJOR O.R. PROCEDURE	2.8272	16.9	37

DIAGNOSIS RELATED GROUPS AND SELECTED RELATIVE WEIGHTS

ORG	MDC	TYPE	TITLE	HCFA 1983 RELATIVE WEIGHT	HCFA 1983 ALOS	HCFA 1983 CUT OFF
401	017	S	LYMPHOMA OR LEUKEMIA WITH MINOR O.R. PROC AGE >69 AND/OR C. C.	1.2409	8.9	29
402	017	S	LYMPHOMA OR LEUKEMIA WITH MINOR O.R. PROCEDURE AGE <70 W/O C. C.	1.1316	7.1	27
403	017	M	LYMPHOMA OR LEUKEMIA AGE >69 AND/OR C. C.	1.1715	7.1	27
404	017	M	LYMPHOMA OR LEUKEMIA AGE 18-69 W/O C. C.	1.1767	6.4	26
405	017	M	LYMPHOMA OR LEUKEMIA AGE 0-17	1.0517	4.9	25
406	017	S	MYELOPROLIF DISORD OR POORLY DIFF NEOPLASM W MAJ O.R. PROC + C. C.	2.2671	15	35
407	017	S	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC W/O C. C.	2.1366	13.3	33
408	017	S	MYELOPROLIF DISORD OR POORLY DIFF NEOPL WITH MINOR O.R. PROC	1.1389	7.1	27
409	017	M	RADIOTHERAPY	0.8134	5.7	26
410	017	M	CHEMOTHERAPY	0.3527	2.6	12
411	017	M	HISTORY OF MALIGNANCY W/O ENDOSCOPY	0.7221	4.7	25
412	017	M	HISTORY OF MALIGNANCY WITH ENDOSCOPY	0.34	2	8
413	017	M	OTHER MYELOPROLIF DISORD OR POORLY DIFF NEOPL DX AGE/69 +/OR C. C.	1.0975	7.3	27
414	017	M	OTHR MYELOPROLIF DISORD OR POORLY DIFF NEOPL DX AGE<70 W/O C. C.	1.0359	6.4	26
415	018	S	O.R. PROCEDURE FOR INFECTIONS + PARASITIC DISEASES	3.0027	15.1	35
416	018	M	SEPTECEMIA AGE >17	1.5504	9.2	29
417	018	M	SEPTECEMIA AGE 0-17	0.7152	5.2	20
418	018	M	POSTOPERATIVE + POST-TRAUMATIC INFECTIONS	0.9968	8.4	28
419	018	M	FEVER OF UNKNOWN ORIGIN AGE >65 AND/OR C. C.	0.8628	6.9	27
420	018	M	FEVER OF UNKNOWN ORIGIN AGE 18-69 W/O C. C.	0.8022	6.2	26
421	018	M	VIRAL ILLNESS AGE >17	0.6045	5.4	21
422	018	M	VIRAL ILLNESS + FEVER OF UNKNOWN ORIGIN AGE 0-17	0.436	3.2	10
423	018	M	OTHER INFECTIOUS + PARASITIC DISEASES DIAGNOSES	1.2107	8.8	29
424	019	S	O.R. PROCEDURES WITH PRINCIPAL DIAGNOSIS OF MENTAL ILLNESS	2.1938	14.2	34
425	019	M	ACUTE ADJUST REACT + DISTURBANCES OF PSYCHOSOCIAL DYSFUNCTION	0.6812	5.8	26
426	019	M	DEPRESSIVE NEUROSES	0.9495	9.4	29
427	019	M	NEUROSES EXCEPT DEPRESSIVE	0.7678	6.9	27
428	019	M	DISORDERS OF PERSONALITY + IMPULSE CONTROL	0.9741	8.3	28
429	019	M	ORGANIC DISTURBANCES + MENTAL RETARDATION	0.9523	8.8	29
430	019	M	PSYCHOSES	1.0934	10.8	31
431	019	M	CHILDHOOD MENTAL DISORDERS	2.2519	15.4	35
432	019	M	OTHER DIAGNOSES OF MENTAL DISORDERS	1.0525	7.2	27
433	020		SUBSTANCE USE + SUBST INDUCED ORGANIC MENTAL DISORDERS, LEFT AMA	0.4457	2.5	17
434	020		DRUG DEPENDENCE	1.0404	9.1	29
435	020		DRUG USE EXCEPT DEPENDENCE	1.0738	8	28
436	020		ALCOHOL DEPENDENCE	0.8853	8.1	28
437	020		ALCOHOL USE EXCEPT DEPENDENCE	0.6183	3.5	24
438	020		ALCOHOL + SUBSTANCE INDUCED ORGANIC MENTAL SYNDROME	0.842	6.9	27
439	021	S	SKIN GRAFTS FOR INJURIES	1.8219	8.9	29
440	021	S	WOUND DEBRIGEMENTS FOR INJURIES	1.4807	7.2	27
441	021	S	HAND PROCEDURES FOR INJURIES	0.718	3	16
442	021	S	OTHER O.R. PROCEDURES FOR INJURIES AGE >69 AND/OR C. C.	1.9026	9.1	29
443	021	S	OTHER O.R. PROCEDURES FOR INJURIES AGE <70 W/O C. C.	1.5211	6.6	27
444	021	M	MULTIPLE TRAUMA AGE >69 AND/OR C. C.	0.883	6.7	27
445	021	M	MULTIPLE TRAUMA AGE 18-65 W/O C. C.	0.753	5.2	25
446	021	M	MULTIPLE TRAUMA AGE 0-17	0.4846	2.4	10
447	021	M	ALLERGIC REACTIONS AGE >17	0.4785	3.7	19
448	021	M	ALLERGIC REACTIONS AGE 0-17	0.3505	2.9	9
449	021	M	TOXIC EFFECTS OF DRUGS AGE >69 AND/OR C. C.	0.7331	5.6	26
450	021	M	TOXIC EFFECTS OF DRUGS AGE 18-69 W/O C. C.	0.5957	3.9	23

DIAGNOSIS RELATED GROUPS AND SELECTED RELATIVE WEIGHTS

DRG	MDC	TYPE	TITLE	HCFA 1983 RELATIVE WEIGHT	HCFA 1983 ALOS	HCFA 1983 CUT OFF
451	021	M	TOXIC EFFECTS OF DRUGS AGE 0-17	0.2912	2.1	8
452	021	M	COMPLICATIONS OF TREATMENT AGE >69 AND/OR C. C.	0.8492	5.5	26
453	021	M	COMPLICATIONS OF TREATMENT AGE <70 W/O C. C.	0.502	5.1	25
454	021	M	OTHER INJURIES, POISONINGS + TOXIC EFFDIAG AGE >69 AND/OR C. C.	0.8224	5.3	25
455	021	M	OTHER INJURIES, POISONINGS + TOXIC EFF DIAG AGE <70 W/O C. C.	0.6185	3.5	22
456	022		BURNS, TRANSFERRED TO ANOTHER ACUTE CARE FACILITY	2.0902	11.6	32
457	022		EXTENSIVE BURNS	6.8631	12.6	33
458	022	S	NON-EXTENSIVE BURNS WITH SKIN GRAFTS	2.8572	10.3	38
459	022	S	NON-EXTENSIVE BURNS WITH WOUND DEBRIDEMENT + OTHER O.R. PROC	2.7568	12.7	33
460	022	M	NON-EXTENSIVE BURNS W/O O.R. PROCEDURE	1.4225	9	29
461	023	S	O.R. PROC WITH DIAGNOSES OF OTHER CONTACT WITH HEALTH SERVICES	1.6507	8	28
462	023	M	REHABILITATION	1.8268	13.5	34
463	023	M	SIGNS + SYMPTOMS WITH C. C.	0.7702	6.3	26
464	023	M	SIGNS + SYMPTOMS W/O C. C.	0.7322	6	26
465	023	M	AFTERCARE WITH HISTORY OF MALIGNANCY AS SECONDARY DX	0.2071	1.5	4
466	023	M	AFTERCARE W/O HISTORY OF MALIGNANCY AS SECONDARY DX	0.6377	3.7	24
467	023	M	OTHER FACTORS INFLUENCING HEALTH STATUS	0.9799	6.1	26
468	023	M	UNRELATED OR PROCEDURE	2.1037	11.2	31
469	0	0	PRIM DX INVALID AS DISCHARGE DIAGNOSIS	0	0	
470	0	0	UNGROUPABLE	0	0	0

APPENDIX D

FISCAL YEAR 1983 DIAGNOSIS RELATED GROUPS WORKLOAD AND MEDICARE REIMBURSEMENT LEVELS

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
1				$0	$0	$0	3.3548
2				$0	$0	$0	3.2829
3				$0	$0	$0	2.9489
4				$0	$0	$0	2.2452
5			6	$0	$0	$28,572	1.678
6	5	8	3	$5,666	$9,065	$3,400	0.3993
7			2	$0	$0	$5,834	1.0279
8	10	6	4	$20,544	$12,326	$8,217	0.7239
9		1	1	$0	$3,961	$3,961	1.3958
10	1			$3,714	$0	$0	1.3087
11	4	1	2	$14,241	$3,560	$7,120	1.2545
12	9	6		$28,443	$18,962	$0	1.1136
13	3	6	2	$8,641	$17,283	$5,761	1.015
14	22	29	17	$84,454	$111,326	$65,260	1.3527
15	9	9	20	$17,044	$17,044	$37,875	0.6673
16	1	1		$2,438	$2,438	$0	0.8592
17	7	2	2	$16,671	$4,763	$4,763	0.8392
18	2	2	2	$4,492	$4,492	$4,492	0.7915
19	27	17	9	$53,445	$33,651	$17,815	0.6975
20	21	5	6	$78,315	$18,646	$22,376	1.3141
21	26	13	8	$46,492	$23,246	$14,305	0.6301
22		1		$0	$2,233	$0	0.7869
23	1		2	$3,283	$0	$6,566	1.1568
24	7	9	5	$14,460	$18,591	$10,329	0.7279
25	69	70	26	$125,165	$126,979	$47,164	0.6392
26	27	19	15	$33,324	$23,450	$18,513	0.4349
27				$0	$0	$0	1.1368
28	10	15	3	$30,368	$45,553	$9,111	1.0701
29	22	8	11	$44,796	$16,290	$22,398	0.7175
30	12	3	7	$12,178	$3,045	$7,104	0.3576

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
31	3	2	3	$5,152	$3,434	$5,152	0.6051
32	13	9	25	$16,672	$11,542	$32,061	0.4519
33	11	5	10	$7,751	$3,523	$7,047	0.2483
34	3		2	$8,452	$0	$5,634	0.9927
35	20	6	6	$48,017	$14,405	$14,405	0.846
36	2			$4,026	$0	$0	0.7093
37	3	1	14	$4,793	$1,598	$22,368	0.563
38	11		1	$13,501	$0	$1,227	0.4325
39	143	41	52	$203,316	$58,294	$73,933	0.501
40	100	13	53	$112,864	$14,672	$59,818	0.3977
41	51	21	21	$53,479	$22,021	$22,021	0.3695
42	2	3	2	$3,352	$5,028	$3,352	0.5906
43	7	12	4	$7,604	$13,036	$4,345	0.3828
44	7	7	4	$12,511	$12,511	$7,149	0.6298
45	4	1	4	$6,403	$1,601	$6,403	0.5641
46	1	2	3	$1,693	$3,385	$5,078	0.5964
47	33	20	12	$47,425	$28,742	$17,245	0.5064
48	12	3	5	$13,826	$3,457	$5,761	0.406
49				$0	$0	$0	2.527
50				$0	$0	$0	0.716
51	4	12	2	$7,608	$22,824	$3,804	0.6702
52				$0	$0	$0	0.6488
53	17	9	15	$28,440	$15,057	$25,094	0.5895
54	5	2	2	$9,877	$3,951	$3,951	0.6961
55	31	34	20	$36,536	$40,072	$23,572	0.4153
56	163	117	28	$191,693	$137,595	$32,929	0.4144
57	14	5	6	$20,863	$7,451	$8,941	0.5251
58	15	1	10	$13,324	$888	$8,883	0.313
59	68	18	19	$60,730	$16,076	$16,969	0.3147
60	46	5	18	$34,503	$3,750	$13,501	0.2643

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
61	3	6	6	$3,638	$7,276	$7,276	0.4273
62	343	9	139	$303,799	$7,971	$123,114	0.3121
63	3	2	6	$9,442	$6,294	$18,883	1.109
64	10	3	13	$30,683	$9,205	$39,889	1.0812
65	8	9	5	$11,027	$12,405	$6,892	0.4857
66	9	3	6	$10,513	$3,504	$7,009	0.4116
67			1	$0	$0	$1,919	0.6762
68	6	3	2	$10,709	$5,354	$3,570	0.6289
69	46	24	20	$70,716	$36,895	$30,746	0.5417
70	57	34	36	$59,803	$35,672	$37,770	0.3697
71	9	16	5	$9,167	$16,296	$5,093	0.3589
72	13	3	4	$17,919	$4,135	$5,513	0.4857
73	58	28	16	$85,871	$41,455	$23,689	0.5217
74	17	1	5	$16,707	$983	$4,914	0.3463
75	4		9	$29,564	$0	$66,519	2.6044
76	2		7	$10,633	$0	$37,216	1.8734
77	5		8	$25,794	$0	$41,270	1.8178
78	6	2	2	$24,000	$8,000	$8,000	1.4095
79	4		4	$20,413	$0	$20,413	1.7982
80	5	3	3	$24,754	$14,852	$14,852	1.7445
81	2			$4,962	$0	$0	0.8743
82	42	4	35	$135,879	$12,941	$113,233	1.14
83				$0	$0	$0	0.9809
84		1		$0	$2,196	$0	0.7738
85		1	1	$0	$3,253	$3,253	1.1461
86	9	2	4	$28,650	$6,367	$12,733	1.1217
87		3	12	$0	$13,221	$52,884	1.5529
88	39	38	34	$115,238	$112,284	$100,464	1.0412
89	20	23	7	$62,599	$71,988	$21,910	1.1029
90	38	26	18	$106,212	$72,671	$50,311	0.9849

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
91	33	50	29	$48,052	$72,807	$42,228	0.5131
92		4	1	$0	$11,772	$2,943	1.037
93	7	5	7	$19,317	$13,798	$19,317	0.9724
94	2	2	2	$8,158	$8,158	$8,158	1.4374
95	20	15	6	$63,864	$47,898	$19,159	1.1252
96	30	13	8	$68,076	$29,500	$18,154	0.7996
97	92	80	33	$189,445	$164,735	$67,953	0.7256
98	71	83	74	$86,138	$100,696	$89,777	0.4275
99	2	5	2	$4,561	$11,401	$4,561	0.8035
100	22	5	3	$48,261	$10,969	$6,581	0.773
101	6	5	12	$15,384	$12,820	$30,769	0.9035
102	9	11	15	$23,048	$28,170	$38,414	0.9024
103				$0	$0	$0	0
104				$0	$0	$0	6.8527
105				$0	$0	$0	5.2308
106				$0	$0	$0	5.2624
107				$0	$0	$0	3.9891
108				$0	$0	$0	4.3756
109				$0	$0	$0	3.6963
110			2	$0	$0	$16,646	2.9328
111				$0	$0	$0	2.5851
112	2	4	5	$13,338	$26,676	$33,345	2.35
113	1		1	$7,606	$0	$7,606	2.68
114				$0	$0	$0	2.1067
115				$0	$0	$0	3.915
116	4		1	$32,539	$0	$8,135	2.8665
117				$0	$0	$0	1.821
118				$0	$0	$0	1.7809
119	11	8	6	$33,121	$24,088	$18,066	1.061
120	2		4	$14,305	$0	$28,611	2.5204

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
121	7	5	3	$37,045	$26,461	$15,876	1.8648
122	74	52	57	$286,678	$201,450	$220,820	1.3651
123	13	4	4	$41,910	$12,895	$12,895	1.136
124				$0	$0	$0	2.22
125				$0	$0	$0	1.6455
126	3		1	$22,685	$0	$7,562	2.6645
127	41	43	43	$121,102	$127,009	$127,009	1.0408
128	10	16	14	$24,517	$39,227	$34,323	0.8639
129	1	5	16	$4,400	$22,002	$70,407	1.5506
130	7	8	5	$19,160	$21,897	$13,686	0.9645
131	23	12	12	$61,950	$32,322	$32,322	0.9491
132	37	36	20	$96,413	$93,808	$52,115	0.9182
133	37	13	33	$90,292	$31,724	$80,531	0.8599
134	20	52	22	$40,009	$104,023	$44,010	0.7049
135	9	3	2	$25,342	$8,447	$5,632	0.9922
136	7	1	8	$19,218	$2,745	$21,963	0.9674
137	2			$3,622	$0	$0	0.6381
138	19	20	13	$50,130	$52,768	$34,299	0.9297
139	45	28	25	$106,034	$65,977	$58,908	0.8303
140	97	54	80	$207,779	$115,671	$171,364	0.7548
141	7	6	3	$12,863	$11,025	$5,513	0.6475
142	24	14	8	$38,686	$22,567	$12,895	0.568
143	138	35	72	$266,858	$67,681	$139,230	0.6814
144	6	14	3	$19,185	$44,765	$9,592	1.1267
145	20	9	2	$56,872	$25,592	$5,687	1.002
146		4	1	$0	$30,743	$7,686	2.7082
147	2	2	2	$14,239	$14,239	$14,239	2.5087
148	11	10	12	$79,582	$72,347	$86,816	2.5493
149	11	5	21	$69,158	$31,436	$132,029	2.2154
150	3	2	2	$20,217	$13,478	$13,478	2.3746

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
151	1		5	$5,754	$0	$28,768	2.0274
152				$0	$0	$0	1.4851
153	1	3	6	$3,575	$10,726	$21,453	1.2599
154	5	4	5	$38,171	$30,537	$38,171	2.6901
155	11	3	14	$72,923	$19,888	$92,811	2.336
156	10	4	3	$24,037	$9,615	$7,211	0.847
157	3	1	5	$6,798	$2,266	$11,330	0.7985
158	46	59	47	$83,653	$107,293	$85,471	0.6408
159	1	4	2	$2,638	$10,554	$5,277	0.9297
160	21	24	17	$45,746	$52,281	$37,032	0.7676
161	3	13	14	$6,018	$26,076	$28,082	0.7068
162	146	155	109	$242,552	$257,503	$181,083	0.5854
163	47	30	24	$58,128	$37,103	$29,682	0.4358
164	1	1		$5,199	$5,199	$0	1.832
165	12	4	10	$55,012	$18,337	$45,844	1.6154
166	3	4	3	$12,198	$16,265	$12,198	1.4328
167	50	64	62	$153,503	$196,483	$190,343	1.0818
168	7		3	$17,146	$0	$7,348	0.8631
169	33	24	18	$84,211	$61,244	$45,933	0.8992
170	6	4	3	$45,296	$30,198	$22,648	2.6602
171	19	8	27	$129,279	$54,433	$183,713	2.3976
172	11	5	5	$38,297	$17,408	$17,408	1.2268
173	18	1	3	$53,723	$2,985	$8,954	1.0517
174	27	16	18	$71,114	$42,142	$47,410	0.9281
175	40	26	28	$93,492	$60,770	$65,444	0.8236
176	2			$7,060	$0	$0	1.2438
177	4	5	3	$8,425	$10,531	$6,319	0.7422
178	21	15	3	$36,598	$26,141	$5,228	0.6141
179	11	5	3	$31,695	$14,407	$8,644	1.0153
180	2	9	4	$4,652	$20,936	$9,305	0.8197

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
181	9	11	11	$20,037	$24,490	$24,490	0.7845
182	27	42	17	$47,392	$73,720	$29,839	0.6185
183	133	110	89	$213,330	$176,439	$142,755	0.5652
184	79	84	40	$85,687	$91,111	$43,386	0.3822
185	33	15	17	$62,568	$28,440	$32,232	0.6681
186	10	2	4	$11,792	$2,358	$4,717	0.4155
187	6		8	$6,794	$0	$9,059	0.399
188	7	5	1	$14,780	$10,557	$2,111	0.744
189	29	29	11	$54,120	$54,120	$20,528	0.6576
190	12	12	6	$11,507	$11,507	$5,754	0.3379
191	1	2	1	$11,860	$23,720	$11,860	4.1791
192				$0	$0	$0	3.9197
193	1			$6,957	$0	$0	2.4513
194	1		1	$5,642	$0	$5,642	1.9881
195	1			$6,155	$0	$0	2.169
196			2	$0	$0	$11,689	2.0594
197	15	10	10	$63,291	$42,194	$42,194	1.4868
198	82	44	58	$296,750	$159,232	$209,896	1.2752
199			1	$0	$0	$6,974	2.4574
200	5		1	$36,635	$0	$7,327	2.5818
201				$0	$0	$0	2.7291
202	11	13	4	$37,351	$44,142	$13,582	1.1965
203	1	2		$3,104	$6,208	$0	1.0937
204	31	15	13	$85,178	$41,215	$35,720	0.9682
205	42	35	26	$128,990	$107,492	$79,851	1.0822
206	45	18	19	$118,090	$47,236	$49,860	0.9247
207	3	8	3	$7,230	$19,280	$7,230	0.8492
208	20	14	14	$41,519	$29,063	$29,063	0.7315
209	3	1	4	$19,507	$6,502	$26,009	2.2912
210				$0	$0	$0	2.0833

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
211				$0	$0	$0	1.953
212				$0	$0	$0	1.7132
213	1		2	$6,049	$0	$12,098	2.1315
214				$0	$0	$0	1.8427
215	12	5	8	$50,810	$21,171	$33,873	1.492
216		2		$0	$8,852	$0	1.5596
217	10	9	13	$64,772	$58,295	$84,204	2.2824
218				$0	$0	$0	1.425
219	5	15	6	$15,311	$45,932	$18,373	1.079
220				$0	$0	$0	0.9339
221			1	$0	$0	$3,612	1.2727
222	35	62	51	$98,304	$174,138	$143,243	0.9897
223				$0	$0	$0	1.0723
224	31	21	3	$78,755	$53,350	$7,621	0.8952
225	15	33	7	$27,567	$60,648	$12,865	0.6476
226				$0	$0	$0	0.7984
227	37	45	17	$66,540	$80,927	$30,573	0.6337
228	34	34	11	$34,987	$34,987	$11,319	0.3626
229	38	13	7	$64,683	$22,128	$11,915	0.5998
230				$0	$0	$0	1.3594
231	61	56	35	$164,786	$151,279	$94,549	0.9519
232	103	151	8	$177,224	$259,814	$13,765	0.6063
233	7	3	3	$35,235	$15,101	$15,101	1.7737
234	190	145	78	$671,523	$512,478	$275,678	1.2454
235	8	5	2	$39,926	$24,954	$9,981	1.7586
236	11	6	7	$43,251	$23,592	$27,523	1.3855
237	2		1	$4,500	$0	$2,250	0.7929
238	12	8	3	$52,823	$35,215	$13,206	1.5511
239	1	5		$3,116	$15,579	$0	1.0979
240		3	1	$0	$8,266	$2,755	0.9709

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
241	13	12	10	$33,381	$30,813	$25,677	0.9048
242	1	2	2	$4,507	$9,013	$9,013	1.588
243	147	266	52	$315,007	$570,013	$111,431	0.7551
244	1	2		$2,211	$4,423	$0	0.7792
245	13	7	2	$26,478	$14,257	$4,074	0.7177
246	8	3	1	$16,226	$6,085	$2,028	0.7147
247	18	23	8	$33,505	$42,812	$14,891	0.6559
248	23	24	6	$40,051	$41,792	$10,448	0.6136
249	12	102	27	$34,746	$295,343	$78,179	1.0203
250	2	2		$4,216	$4,216	$0	0.7428
251	37	58	23	$62,624	$98,167	$38,928	0.5964
252	10		3	$10,026	$0	$3,008	0.3533
253	2	8	3	$4,238	$16,950	$6,356	0.7466
254	145	259	34	$257,515	$459,975	$60,383	0.6258
255	16	1	1	$21,282	$1,330	$1,330	0.4687
256	26	33	30	$64,238	$81,533	$74,121	0.8706
257	6	2	3	$18,875	$6,292	$9,437	1.1085
258	21	10	12	$63,941	$30,448	$36,538	1.0729
259		3		$0	$8,634	$0	1.0141
260	3	10	3	$7,939	$26,464	$7,939	0.9325
261	16	1	3	$33,278	$2,080	$6,240	0.7329
262	26	57	61	$34,067	$74,685	$79,926	0.4617
263	1		2	$7,020	$0	$14,040	2.4737
264	6	1	1	$37,513	$6,252	$6,252	2.2031
265	3	1	1	$12,736	$4,245	$4,245	1.4959
266	15	16	14	$40,376	$43,068	$37,685	0.9485
267	27	30	28	$46,840	$52,044	$48,575	0.6113
268	45	18	12	$68,808	$27,523	$18,349	0.5388
269	6	4	9	$16,937	$11,291	$25,406	0.9947
270	82	52	56	$189,029	$119,872	$129,093	0.8123

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
271	4	1		$15,668	$3,917	$0	1.3802
272	1		1	$2,446	$0	$2,446	0.862
273	6	5	6	$14,109	$11,757	$14,109	0.8286
274	6	1	2	$17,211	$2,869	$5,737	1.0108
275	22		2	$56,278	$0	$5,116	0.9014
276	8	3	7	$13,772	$5,164	$12,050	0.6066
277	8	3	5	$20,122	$7,546	$12,576	0.8863
278	73	40	34	$167,723	$91,903	$78,117	0.8096
279	17	13	11	$23,104	$17,668	$14,950	0.4789
280	9	11	7	$15,838	$19,358	$12,319	0.6201
281	60	78	45	$91,557	$119,024	$68,667	0.5377
282	12	4	2	$11,783	$3,928	$1,964	0.346
283	5	5	5	$9,073	$9,073	$9,073	0.6394
284	29	19	22	$49,141	$32,196	$37,279	0.5971
285	3		1	$24,399	$0	$8,133	2.8658
286				$0	$0	$0	2.8952
287	3	1	4	$23,960	$7,987	$31,947	2.8143
288	4			$17,816	$0	$0	1.5695
289			1	$0	$0	$3,898	1.3736
290	13	16	31	$31,540	$38,818	$75,210	0.8549
291	4	1		$5,573	$1,393	$0	0.4909
292	3		2	$17,289	$0	$11,526	2.0307
293			4	$0	$0	$16,972	1.4951
294	56	46	32	$128,521	$105,571	$73,441	0.8087
295	30	15	8	$63,487	$31,743	$16,930	0.7457
296	13	22	8	$33,126	$56,060	$20,385	0.8979
297	45	76	8	$101,181	$170,884	$17,988	0.7923
298	38	15	26	$81,290	$32,088	$55,620	0.7538
299	1	1		$2,670	$2,670	$0	0.9407
300	4	2	2	$11,046	$5,523	$5,523	0.9731

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
301	26	6	7	$60,084	$13,865	$16,176	0.8143
302				$0	$0	$0	4.2279
303	3	2	4	$21,622	$14,415	$28,830	2.5397
304	6	5	4	$30,568	$25,473	$20,378	1.7952
305	38	14	16	$183,793	$67,713	$77,386	1.7043
306		1	1	$0	$3,235	$3,235	1.1399
307	1	1	1	$2,700	$2,700	$2,700	0.9513
308	1	2	1	$2,963	$5,926	$2,963	1.0441
309	4	1	11	$10,546	$2,636	$29,001	0.929
310	3	4	3	$6,020	$8,027	$6,020	0.7071
311	16	9	13	$26,658	$14,995	$21,660	0.5871
312	4		2	$8,427	$0	$4,214	0.7424
313	13	2	4	$25,187	$3,875	$7,750	0.6827
314				$0	$0	$0	0.4368
315	2	1		$2,772	$1,386	$0	0.4884
316	5	2		$18,892	$7,557	$0	1.3314
317				$0	$0	$0	0.2385
318	3	1		$7,783	$2,594	$0	0.9142
319	6	5	2	$13,523	$11,269	$4,508	0.7942
320	9	7	7	$20,747	$16,137	$16,137	0.8123
321	38	33	37	$73,364	$63,711	$71,433	0.6803
322	23	11	10	$29,725	$14,216	$12,924	0.4554
323	6	2	2	$12,142	$4,047	$4,047	0.7131
324	20	20	21	$31,058	$31,058	$32,611	0.5472
325	3	1		$6,170	$2,057	$0	0.7247
326	3	3	3	$5,002	$5,002	$5,002	0.5875
327	2	2	2	$2,853	$2,853	$2,853	0.5027
328				$0	$0	$0	0.6508
329	2	1		$3,023	$1,511	$0	0.5326
330	1			$799	$0	$0	0.2817

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
331	1	3	3	$2,531	$7,593	$7,593	0.8919
332	17	5	8	$37,452	$11,015	$17,625	0.7763
333	2	3	8	$2,921	$4,381	$11,683	0.5146
334			1	$0	$0	$4,431	1.5612
335			1	$0	$0	$3,857	1.359
336	7	20	17	$20,022	$57,207	$48,626	1.0079
337	15	6	47	$36,145	$14,458	$113,254	0.8491
338	3	3	2	$7,744	$7,744	$5,163	0.9096
339	56	58	24	$96,832	$100,290	$41,499	0.6093
340	32	17	17	$39,785	$21,136	$21,136	0.4381
341	25	5	5	$70,827	$14,165	$14,165	0.9983
342	37	1	24	$44,395	$1,200	$28,797	0.4228
343	25		13	$27,159	$0	$14,123	0.3828
344	2	1	1	$6,359	$3,180	$3,180	1.1204
345	1	1		$2,365	$2,365	$0	0.8334
346	4	2	3	$10,665	$5,332	$7,999	0.9395
347	5	4	2	$11,783	$9,426	$4,713	0.8304
348		1		$0	$2,516	$0	0.8864
349	3		1	$5,958	$0	$1,986	0.6998
350	13	13	9	$25,478	$25,478	$17,639	0.6906
351			1	$0	$0	$753	0.2655
352	8	7	10	$14,496	$12,684	$18,120	0.6385
353				$0	$0	$0	1.937
354	23	22	11	$72,504	$69,352	$34,676	1.1108
355	150	48	115	$432,327	$138,345	$331,451	1.0156
356	16	2	15	$38,414	$4,802	$36,013	0.846
357		1	1	$0	$5,445	$5,445	1.9188
358	35	23	38	$108,167	$71,081	$117,438	1.089
359	122	12	14	$148,150	$14,572	$17,001	0.4279
360	17	12	15	$28,874	$20,382	$25,477	0.5985

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
361	69	53	49	$95,245	$73,159	$67,638	0.4864
362	6	34	41	$5,323	$30,162	$36,372	0.3126
363	8	3	4	$14,793	$5,548	$7,397	0.6516
364	74	61	39	$84,590	$69,730	$44,581	0.4028
365	26	7	7	$132,556	$35,688	$35,688	1.7965
366	1	5	2	$2,396	$11,982	$4,793	0.8444
367	4	1	18	$6,568	$1,642	$29,556	0.5786
368	21	32	18	$47,343	$72,142	$40,580	0.7944
369	66	41	26	$130,344	$80,971	$51,347	0.6959
370	71	26	29	$199,718	$73,136	$81,575	0.9912
371	343	178	164	$733,459	$380,629	$350,692	0.7535
372	208	47	78	$326,664	$73,813	$122,499	0.5534
373	1471	965	725	$1,696,126	$1,112,686	$835,956	0.4063
374	129	66	30	$201,057	$102,866	$46,757	0.5492
375	2	1		$3,910	$1,955	$0	0.6889
376	11	7	12	$12,980	$8,260	$14,160	0.4158
377	10	8	2	$13,511	$10,809	$2,702	0.4761
378	14	19	17	$32,158	$43,643	$39,049	0.8094
379	49	45	29	$44,067	$40,470	$26,081	0.3169
380	33	27	7	$25,333	$20,727	$5,374	0.2705
381	170	90	67	$173,777	$91,999	$68,488	0.3602
382				$0	$0	$0	0.1842
383	161	97	123	$197,245	$118,837	$150,690	0.4317
384	50	29	32	$46,045	$26,706	$29,469	0.3245
385	43	28	22	$83,993	$54,693	$42,973	0.6883
386	8			$83,691	$0	$0	3.6863
387	7	4	1	$36,669	$20,954	$5,238	1.8459
388	37	8	4	$122,780	$26,547	$13,273	1.1693
389	33	80	28	$51,339	$124,459	$43,561	0.5482
390	155	87	38	$154,968	$86,982	$37,992	0.3523

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
391	1931	1097	931	$1,228,069	$697,665	$592,093	0.2241
392	1		1	$7,874	$0	$7,874	2.7746
393				$0	$0	$0	1.5366
394	8	6	13	$25,305	$18,979	$41,121	1.1146
395	30	20	16	$66,739	$44,493	$35,594	0.7839
396	11	1	1	$19,651	$1,786	$1,786	0.6295
397	15	3	4	$41,985	$8,397	$11,196	0.9863
398	2	1	2	$5,051	$2,526	$5,051	0.89
399	15	11	9	$36,009	$26,406	$21,605	0.8459
400	2		1	$16,047	$0	$8,023	2.8272
401				$0	$0	$0	1.2409
402	5		2	$16,057	$0	$6,423	1.1316
403	6	3	1	$19,948	$9,974	$3,325	1.1715
404	19	4	3	$63,556	$13,380	$10,035	1.1787
405	1			$2,985	$0	$0	1.0517
406		1		$0	$6,434	$0	2.2671
407	1	1		$6,063	$6,063	$0	2.1366
408			1	$0	$0	$3,232	1.1389
409	2			$4,617	$0	$0	0.8134
410	32		7	$32,030	$0	$7,007	0.3527
411	2	2	2	$4,099	$4,099	$4,099	0.7221
412	2	1		$1,930	$965	$0	0.34
413	5	2	1	$15,573	$6,229	$3,115	1.0975
414	17	4	12	$49,976	$11,759	$35,277	1.0359
415	8	2	3	$68,171	$17,043	$25,564	3.0027
416	4	2	5	$17,600	$8,800	$21,999	1.5504
417	6	6	2	$12,178	$12,178	$4,059	0.7152
418	13	11	15	$36,775	$31,117	$42,432	0.9968
419	1		1	$2,449	$0	$2,449	0.8628
420	5		1	$11,383	$0	$2,277	0.8022

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
421	61	47	23	$104,647	$80,629	$39,457	0.6045
422	50	18	26	$61,866	$22,272	$32,171	0.436
423		3		$0	$10,308	$0	1.2107
424	2		11	$12,452	$0	$68,484	2.1938
425	43	21	6	$83,127	$40,597	$11,599	0.6812
426	22	73	19	$59,281	$196,705	$51,197	0.9495
427	73	82	14	$159,063	$178,674	$30,505	0.7678
428	105	93	18	$290,263	$257,090	$49,759	0.9741
429	7	12	3	$18,918	$32,431	$8,108	0.9523
430	66	42	12	$204,796	$130,325	$37,236	1.0934
431	3			$19,172	$0	$0	2.2519
432	7	4	2	$20,908	$11,948	$5,974	1.0525
433				$0	$0	$0	0.4457
434	2	4	4	$5,905	$11,810	$11,810	1.0404
435	7	10	1	$21,331	$30,473	$3,047	1.0738
436		441	80	$0	$1,107,969	$200,992	0.8853
437	6	43	5	$10,528	$75,451	$8,773	0.6183
438	344	45	131	$821,995	$107,528	$313,027	0.842
439	1	2	1	$5,170	$10,341	$5,170	1.8219
440	3	2	3	$12,606	$8,404	$12,606	1.4807
441	3		1	$6,113	$0	$2,038	0.718
442	1	1		$5,399	$5,399	$0	1.9026
443	18	5	5	$77,701	$21,584	$21,584	1.5211
444		3	2	$0	$7,518	$5,012	0.883
445	20	22	5	$42,739	$47,013	$10,685	0.753
446	1		2	$1,375	$0	$2,751	0.4846
447	6	2	1	$8,148	$2,716	$1,358	0.4785
448	2			$1,989	$0	$0	0.3505
449	9	13	6	$18,724	$27,046	$12,483	0.7331
450	42	26	24	$71,003	$43,954	$40,573	0.5957

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL PAYMENT RATE OF $2837.91

FY83 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LB	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
451	20	23	14	$16,528	$19,007	$11,570	0.2912
452	3	1	1	$7,230	$2,410	$2,410	0.8492
453	13	8	9	$33,277	$20,478	$23,038	0.902
454	3		2	$7,002	$0	$4,668	0.8224
455	16	9	8	$28,084	$15,797	$14,042	0.6185
456			3	$0	$0	$17,795	2.0902
457			1	$0	$0	$19,477	6.8631
458				$0	$0	$0	2.8572
459	5	1	1	$39,118	$7,824	$7,824	2.7568
460	10	9	10	$40,369	$36,332	$40,369	1.4225
461	7	18	4	$32,792	$84,322	$18,738	1.6507
462				$0	$0	$0	1.8268
463	1	2	3	$2,186	$4,372	$6,557	0.7702
464	7	2	7	$14,545	$4,156	$14,545	0.7322
465			1	$0	$0	$588	0.2071
466	2	5	7	$3,619	$9,049	$12,668	0.6377
467	46	56	49	$127,920	$155,729	$136,263	0.9799
468	121	65	88	$722,383	$388,057	$525,370	2.1037
469	0	0	0	$0	$0	$0	
470	3	3	0	$0	$0	$0	
TOTALS:	13262	9385	7165	$24,141,910	$17,832,254	$14,223,286	

APPENDIX E

FISCAL YEAR 1984 DIAGNOSIS RELATED GROUPS WORKLOAD AND MEDICARE REIMBURSEMENT LEVELS

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
1				$0	$0	$0	3.3548
2				$0	$0	$0	3.2829
3				$0	$0	$0	2.9489
4				$0	$0	$0	2.2452
5			22	$0	$0	$104,764	1.678
6	11	18	6	$12,465	$20,397	$6,799	0.3993
7				$0	$0	$0	1.0279
8	2	4	2	$4,109	$8,217	$4,109	0.7239
9	2	3		$7,922	$11,883	$0	1.3958
10	1		1	$3,714	$0	$3,714	1.3087
11	3	1	1	$10,680	$3,560	$3,560	1.2545
12	10	8	7	$31,603	$25,282	$22,122	1.1136
13	6	5		$17,283	$14,402	$0	1.015
14	24	19	20	$92,132	$72,938	$76,777	1.3527
15	10	8	39	$18,937	$15,150	$73,856	0.6673
16	1	4	1	$2,438	$9,753	$2,438	0.8592
17	3	3	2	$7,145	$7,145	$4,763	0.8392
18	2	5		$4,492	$11,231	$0	0.7915
19	40	20	10	$79,178	$39,589	$19,794	0.6975
20	13	11	8	$48,481	$41,022	$29,834	1.3141
21	41	10	11	$73,315	$17,882	$19,670	0.6301
22			0	$0	$0	$0	0.7869
23	5	2	11	$16,414	$6,566	$36,112	1.1568
24	16	6	12	$33,051	$12,394	$24,789	0.7279
25	88	53	30	$159,631	$96,142	$54,420	0.6392
26	24	23	13	$29,621	$28,387	$16,045	0.4349
27				$0	$0	$0	1.1368
28	12	11	16	$36,442	$33,405	$48,590	1.0701
29	28	18	14	$57,014	$36,652	$28,507	0.7175
30	9	4	11	$9,134	$4,059	$11,163	0.3576

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
31	1		4	$1,717	$0	$6,869	0.6051
32	7	9	12	$8,977	$11,542	$15,389	0.4519
33	9	2	5	$6,342	$1,409	$3,523	0.2483
34	2	1		$5,634	$2,817	$0	0.9927
35	17	6	6	$40,815	$14,405	$14,405	0.846
36	10		3	$20,129	$0	$6,039	0.7093
37	7	3	9	$11,184	$4,793	$14,380	0.563
38	13	1		$15,956	$1,227	$0	0.4325
39	244	51	86	$346,917	$72,511	$122,274	0.501
40	86	26	47	$97,063	$29,345	$53,046	0.3977
41	36	29	18	$37,750	$30,410	$18,875	0.3695
42	10	5	4	$16,761	$8,380	$6,704	0.5906
43	10	13	1	$10,864	$14,123	$1,086	0.3828
44	7	17	2	$12,511	$30,384	$3,575	0.6298
45	2	3	2	$3,202	$4,803	$3,202	0.5641
46	3	7	2	$5,078	$11,848	$3,385	0.5964
47	44	26	12	$63,233	$37,365	$17,245	0.5064
48	10	9	11	$11,522	$10,370	$12,674	0.406
49		4		$0	$28,686	$0	2.527
50				$0	$0	$0	0.716
51		5	5	$0	$9,510	$9,510	0.6702
52				$0	$0	$0	0.6488
53	14	8	14	$23,421	$13,384	$23,421	0.5895
54	2	2	1	$3,951	$3,951	$1,975	0.6961
55	40	28	30	$47,143	$33,000	$35,358	0.4153
56	175	92	28	$205,805	$108,195	$32,929	0.4144
57	10	7	8	$14,902	$10,431	$11,921	0.5251
58	10	5	10	$8,883	$4,441	$8,883	0.313
59	37	9	19	$33,044	$8,038	$16,969	0.3147
60	34	5	17	$25,502	$3,750	$12,751	0.2643

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
61	3	9	9	$3,638	$10,914	$10,914	0.4273
62	232	62	86	$205,485	$54,914	$76,171	0.3121
63	6	3	7	$18,883	$9,442	$22,031	1.109
64	5	1	4	$15,342	$3,068	$12,273	1.0812
65	9	6	5	$12,405	$8,270	$6,892	0.4857
66	5	4	6	$5,840	$4,672	$7,009	0.4116
67	3		1	$5,757	$0	$1,919	0.6762
68	6	12	5	$10,709	$21,417	$8,924	0.6289
69	58	44	9	$89,163	$67,641	$13,836	0.5417
70	58	32	48	$60,852	$33,574	$50,360	0.3697
71	11	16	3	$11,204	$16,296	$3,056	0.3589
72	13	4	2	$17,919	$5,513	$2,757	0.4857
73	49	13	19	$72,546	$19,247	$28,130	0.5217
74	16	3	7	$15,724	$2,948	$6,879	0.3463
75	3	1	14	$22,173	$7,391	$103,475	2.6044
76	4			$21,266	$0	$0	1.8734
77	2		4	$10,318	$0	$20,635	1.8178
78	5	2	3	$20,000	$8,000	$12,000	1.4095
79	2	2	1	$10,206	$10,206	$5,103	1.7982
80	2	1	6	$9,901	$4,951	$29,704	1.7445
81				$0	$0	$0	0.8743
82	30	5	32	$97,057	$16,176	$103,527	1.14
83				$0	$0	$0	0.9809
84				$0	$0	$0	0.7738
85	2	5	1	$6,505	$16,263	$3,253	1.1461
86	5		9	$15,916	$0	$28,650	1.1217
87	3	2	13	$13,221	$8,814	$57,291	1.5529
88	52	64	59	$153,651	$189,109	$174,335	1.0412
89	14	26	8	$43,819	$81,378	$25,039	1.1029
90	30	28	19	$83,852	$78,262	$53,106	0.9849

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
91	26	51	22	$37,859	$74,263	$32,035	0.5131
92	5	1	1	$14,715	$2,943	$2,943	1.037
93	5	2	6	$13,798	$5,519	$16,558	0.9724
94	5	2	1	$20,396	$8,158	$4,079	1.4374
95	24	9	12	$76,637	$28,739	$38,319	1.1252
96	20	23	19	$45,384	$52,191	$43,115	0.7996
97	109	58	39	$224,451	$119,433	$80,308	0.7256
98	78	87	75	$94,630	$105,549	$90,990	0.4275
99	1	2	1	$2,280	$4,561	$2,280	0.8035
100	17	3	12	$37,293	$6,581	$26,324	0.773
101	6	8	12	$15,384	$20,512	$30,769	0.9035
102	10	2	22	$25,609	$5,122	$56,340	0.9024
103				$0	$0	$0	0
104				$0	$0	$0	6.8527
105				$0	$0	$0	5.2308
106				$0	$0	$0	5.2624
107				$0	$0	$0	3.9891
108				$0	$0	$0	4.3756
109	1			$10,490	$0	$0	3.6963
110			11	$0	$0	$91,553	2.9328
111			10	$0	$0	$73,363	2.5851
112		1	4	$0	$6,669	$26,676	2.35
113	2	1	5	$15,211	$7,606	$38,028	2.68
114	1		2	$5,979	$0	$11,957	2.1067
115	1		0	$11,110	$0	$0	3.915
116	3			$24,405	$0	$0	2.8665
117				$0	$0	$0	1.821
118				$0	$0	$0	1.7809
119	11	25	7	$33,121	$75,276	$21,077	1.061
120	3	2		$21,458	$14,305	$0	2.5204

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
121	5	2	11	$26,461	$10,584	$58,213	1.8648
122	46	52	39	$178,205	$201,450	$151,087	1.3651
123	10	4	6	$32,239	$12,895	$19,343	1.136
124				$0	$0	$0	2.22
125				$0	$0	$0	1.6455
126	1	1		$7,562	$7,562	$0	2.6645
127	38	34	47	$112,240	$100,426	$138,824	1.0408
128	12	12	10	$29,420	$29,420	$24,517	0.8639
129	1	2	19	$4,400	$8,801	$83,609	1.5506
130	3	3	10	$8,211	$8,211	$27,372	0.9645
131	8	13	21	$21,548	$35,015	$56,563	0.9491
132	17	32	21	$44,298	$83,385	$54,721	0.9182
133	16	17	18	$39,045	$41,485	$43,926	0.8599
134	31	17	26	$62,014	$34,008	$52,012	0.7049
135	3	7	3	$8,447	$19,710	$8,447	0.9922
136	6	5	4	$16,472	$13,727	$10,982	0.9674
137	3	1		$5,433	$1,811	$0	0.6381
138	13	18	26	$34,299	$47,491	$68,599	0.9297
139	27	29	26	$63,621	$68,333	$61,264	0.8303
140	101	44	88	$216,348	$94,250	$188,501	0.7548
141	9	4	6	$16,538	$7,350	$11,025	0.6475
142	18	6	16	$29,015	$9,672	$25,791	0.568
143	140	63	64	$270,725	$121,826	$123,760	0.6814
144	9	16	0	$28,777	$51,160	$0	1.1267
145	19	13	4	$54,028	$36,967	$11,374	1.002
146	1	1	1	$7,686	$7,686	$7,686	2.7082
147	2	3	3	$14,239	$21,358	$21,358	2.5087
148	10	14	13	$72,347	$101,286	$94,051	2.5493
149	8	9	19	$50,297	$56,584	$119,455	2.2154
150		2	2	$0	$13,478	$13,478	2.3746

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
151	1	2	9	$5,754	$11,507	$51,782	2.0274
152		5	3	$0	$21,073	$12,644	1.4851
153	5	2	5	$17,877	$7,151	$17,877	1.2599
154	10		4	$76,343	$0	$30,537	2.6901
155	13	3	23	$86,182	$19,888	$152,475	2.336
156	13	3	5	$31,248	$7,211	$12,019	0.847
157	6	7	2	$13,596	$15,862	$4,532	0.7985
158	54	61	61	$98,201	$110,930	$110,930	0.6408
159	4	1	1	$10,554	$2,638	$2,638	0.9297
160	25	31	12	$54,459	$67,530	$26,141	0.7676
161	14	19	13	$28,082	$38,111	$26,076	0.7068
162	138	167	137	$229,261	$277,439	$227,600	0.5854
163	62	41	37	$76,679	$50,707	$45,760	0.4358
164	3	3	1	$15,597	$15,597	$5,199	1.832
165	15	19	7	$68,765	$87,103	$32,091	1.6154
166	7	1	2	$28,463	$4,066	$8,132	1.4328
167	67	80	67	$205,693	$245,604	$205,693	1.0818
168	5		1	$12,247	$0	$2,449	0.8631
169	48	19	25	$122,489	$48,485	$63,796	0.8992
170	4			$30,198	$0	$0	2.6602
171	10	6	25	$68,042	$40,825	$170,104	2.3976
172	4	1	5	$13,926	$3,482	$17,408	1.2268
173	12	2	4	$35,816	$5,969	$11,939	1.0517
174	16	12	12	$42,142	$31,606	$31,606	0.9281
175	44	25	26	$102,841	$58,433	$60,770	0.8236
176	1	2	1	$3,530	$7,060	$3,530	1.2438
177	3	4		$6,319	$8,425	$0	0.7422
178	11	5	7	$19,170	$8,714	$12,199	0.6141
179	11	11	4	$31,695	$31,695	$11,525	1.0153
180	4	9	1	$9,305	$20,936	$2,326	0.8197

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
181	18	7	9	$40,074	$15,584	$20,037	0.7845
182	31	61	36	$54,413	$107,070	$63,189	0.6185
183	152	166	87	$243,806	$266,262	$139,547	0.5652
184	63	104	61	$68,333	$112,804	$66,164	0.3822
185	17	16	9	$32,232	$30,336	$17,064	0.6681
186	11	2	3	$12,971	$2,358	$3,537	0.4155
187	15	1	4	$16,985	$1,132	$4,529	0.399
188	8	10	5	$16,891	$21,114	$10,557	0.744
189	61	33	9	$113,839	$61,585	$16,796	0.6576
190	20	3	7	$19,179	$2,877	$6,713	0.3379
191				$0	$0	$0	4.1791
192				$0	$0	$0	3.9197
193				$0	$0	$0	2.4513
194	1		2	$5,642	$0	$11,284	1.9881
195	1	2	1	$6,155	$12,311	$6,155	2.169
196	1	1	1	$5,844	$5,844	$5,844	2.0594
197	19	8	11	$80,169	$33,755	$46,413	1.4868
198	67	71	87	$242,466	$256,942	$314,845	1.2752
199	1	1		$6,974	$6,974	$0	2.4574
200	2		2	$14,654	$0	$14,654	2.5818
201			1	$0	$0	$7,745	2.7291
202	7	8	8	$23,769	$27,164	$27,164	1.1965
203	2		1	$6,208	$0	$3,104	1.0937
204	26	19	13	$71,439	$52,206	$35,720	0.9682
205	22	23	15	$67,566	$70,637	$46,068	1.0822
206	21	23	8	$55,109	$60,357	$20,994	0.9247
207	3	10	2	$7,230	$24,100	$4,820	0.8492
208	22	25	10	$45,670	$51,898	$20,759	0.7315
209		1	1	$0	$6,502	$6,502	2.2912
210				$0	$0	$0	2.0833

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
211				$0	$0	$0	1.953
212				$0	$0	$0	1.7132
213	2		2	$12,098	$0	$12,098	2.1315
214	1			$5,229	$0	$0	1.8427
215	9	6	9	$38,107	$25,405	$38,107	1.492
216		2		$0	$8,852	$0	1.5596
217	13	11	8	$84,204	$71,250	$51,818	2.2824
218				$0	$0	$0	1.425
219	3	21		$9,186	$64,304	$0	1.079
220				$0	$0	$0	0.9339
221	1	1	1	$3,612	$3,612	$3,612	1.2727
222	36	60	40	$101,112	$168,521	$112,347	0.9897
223		1	1	$0	$3,043	$3,043	1.0723
224	27	27	3	$68,593	$68,593	$7,621	0.8952
225	13	19	2	$23,892	$34,919	$3,676	0.6476
226			1	$0	$0	$2,266	0.7984
227	33	19	10	$59,347	$34,169	$17,984	0.6337
228	14	51	18	$14,406	$52,480	$18,522	0.3626
229	19	23	4	$32,341	$39,150	$6,809	0.5998
230				$0	$0	$0	1.3594
231	42	54	33	$113,459	$145,876	$89,146	0.9519
232	103	147	46	$177,224	$252,932	$79,149	0.6063
233	6	7	6	$30,202	$35,235	$30,202	1.7737
234	136	122	50	$480,669	$431,189	$176,717	1.2454
235	5	5	2	$24,954	$24,954	$9,981	1.7586
236	10	16	6	$39,319	$62,911	$23,592	1.3855
237	2	1		$4,500	$2,250	$0	0.7929
238	6	7	3	$26,411	$30,813	$13,206	1.5511
239	10	3	1	$31,157	$9,347	$3,116	1.0979
240	4	2	4	$11,021	$5,511	$11,021	0.9709

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
241	10	11	2	$25,677	$28,245	$5,135	0.9048
242	4	1		$18,026	$4,507	$0	1.588
243	171	256	48	$366,437	$548,584	$102,859	0.7551
244	1	2	1	$2,211	$4,423	$2,211	0.7792
245	14	19	9	$28,515	$38,699	$18,331	0.7177
246	7	2	1	$14,198	$4,057	$2,028	0.7147
247	15	21	6	$27,921	$39,089	$11,168	0.6559
248	26	22	6	$45,275	$38,310	$10,448	0.6136
249	9	49	10	$26,060	$141,880	$28,955	1.0203
250		3	3	$0	$6,324	$6,324	0.7428
251	25	81	12	$42,313	$137,095	$20,310	0.5964
252	10		6	$10,026	$0	$6,016	0.3533
253	8	8	4	$16,950	$16,950	$8,475	0.7466
254	141	203	23	$250,411	$360,521	$40,847	0.6258
255	16	2	1	$21,282	$2,660	$1,330	0.4687
256	26	36	19	$64,238	$88,945	$46,943	0.8706
257	2	1	2	$6,292	$3,146	$6,292	1.1085
258	11	18	14	$33,493	$54,806	$42,627	1.0729
259		5	1	$0	$14,390	$2,878	1.0141
260	1	6	4	$2,646	$15,878	$10,585	0.9325
261	18	3	1	$37,438	$6,240	$2,080	0.7329
262	25	41	64	$32,757	$53,721	$83,857	0.4617
263	3	1		$21,060	$7,020	$0	2.4737
264	4		3	$25,009	$0	$18,757	2.2031
265			2	$0	$0	$8,490	1.4959
266	12	6	15	$32,301	$16,151	$40,376	0.9485
267	47	28	19	$81,536	$48,575	$32,961	0.6113
268	45	7	13	$68,808	$10,703	$19,878	0.5388
269	10	3	7	$28,229	$8,469	$19,760	0.9947
270	65	47	68	$149,840	$108,346	$156,756	0.8123

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
271		2	2	$0	$7,834	$7,834	1.3802
272				$0	$0	$0	0.862
273	3	7	1	$7,054	$16,460	$2,351	0.8286
274	11	1	1	$31,554	$2,869	$2,869	1.0108
275	9	1	2	$23,023	$2,558	$5,116	0.9014
276	9	9	9	$15,493	$15,493	$15,493	0.6066
277	8	11	9	$20,122	$27,668	$22,637	0.8863
278	59	57	46	$135,557	$130,962	$105,688	0.8096
279	29	18	9	$39,413	$24,463	$12,232	0.4789
280	11	21	7	$19,358	$36,956	$12,319	0.6201
281	74	69	22	$112,920	$105,290	$33,571	0.5377
282	15	5	4	$14,729	$4,910	$3,928	0.346
283	3	6	6	$5,444	$10,887	$10,887	0.6394
284	45	31	28	$76,253	$52,530	$47,446	0.5971
285	4		5	$32,532	$0	$40,664	2.8658
286			1	$0	$0	$8,216	2.8952
287	1	1	1	$7,987	$7,987	$7,987	2.8143
288		1		$0	$4,454	$0	1.5695
289		1	1	$0	$3,898	$3,898	1.3736
290	19	16	16	$46,096	$38,818	$38,818	0.8549
291	1	2	1	$1,393	$2,786	$1,393	0.4909
292			1	$0	$0	$5,763	2.0307
293	3		2	$12,729	$0	$8,486	1.4951
294	41	42	29	$94,096	$96,391	$66,556	0.8087
295	34	13	10	$71,952	$27,511	$21,162	0.7457
296	16	39	15	$40,771	$99,378	$38,222	0.8979
297	13	69	12	$29,230	$155,145	$26,982	0.7923
298	22	20	9	$47,063	$42,784	$19,253	0.7538
299	1	2	2	$2,670	$5,339	$5,339	0.9407
300	3	1	1	$8,285	$2,762	$2,762	0.9731

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
301	20	4	11	$46,218	$9,244	$25,420	0.8143
302				$0	$0	$0	4.2279
303	1	1	1	$7,207	$7,207	$7,207	2.5397
304	2	2		$10,189	$10,189	$0	1.7952
305	28	10	9	$135,426	$48,367	$43,530	1.7043
306	1		1	$3,235	$0	$3,235	1.1399
307	3			$8,099	$0	$0	0.9513
308		4	2	$0	$11,852	$5,926	1.0441
309	4	5	6	$10,546	$13,182	$15,819	0.929
310	1	3	1	$2,007	$6,020	$2,007	0.7071
311	27	10	15	$44,986	$16,661	$24,992	0.5871
312	1			$2,107	$0	$0	0.7424
313	18	1	5	$34,874	$1,937	$9,687	0.6827
314				$0	$0	$0	0.4368
315	6			$8,316	$0	$0	0.4884
316	6	4	2	$22,670	$15,114	$7,557	1.3314
317				$0	$0	$0	0.2385
318	2	1	1	$5,189	$2,594	$2,594	0.9142
319		4	1	$0	$9,015	$2,254	0.7942
320	9	12	13	$20,747	$27,663	$29,968	0.8123
321	65	32	24	$125,491	$61,780	$46,335	0.6803
322	25	9	16	$32,310	$11,631	$20,678	0.4554
323	2	3		$4,047	$6,071	$0	0.7131
324	36	18	18	$55,905	$27,952	$27,952	0.5472
325	3	1	3	$6,170	$2,057	$6,170	0.7247
326	6		2	$10,004	$0	$3,335	0.5875
327	3	4	1	$4,280	$5,706	$1,427	0.5027
328				$0	$0	$0	0.6508
329	3	2		$4,534	$3,023	$0	0.5326
330	1			$799	$0	$0	0.2817

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
331	8	5	1	$20,249	$12,656	$2,531	0.8919
332	13	8	7	$28,640	$17,625	$15,421	0.7763
333	4	3	5	$5,842	$4,381	$7,302	0.5146
334		2	1	$0	$8,861	$4,431	1.5612
335	4		2	$15,427	$0	$7,713	1.359
336	7	22	7	$20,022	$62,927	$20,022	1.0079
337	21	12	20	$50,603	$28,916	$48,193	0.8491
338	7	3	3	$18,070	$7,744	$7,744	0.9096
339	47	44	23	$81,270	$76,082	$39,770	0.6093
340	28	17	4	$34,812	$21,136	$4,973	0.4381
341	13	6	5	$36,830	$16,999	$14,165	0.9983
342	17	2	8	$20,398	$2,400	$9,599	0.4228
343	13	4	2	$14,123	$4,345	$2,173	0.3828
344	5	1	1	$15,898	$3,180	$3,180	1.1204
345	2	2		$4,730	$4,730	$0	0.8334
346	1		5	$2,666	$0	$13,331	0.9395
347	8	2	1	$18,853	$4,713	$2,357	0.8304
348	1			$2,516	$0	$0	0.8864
349	13		1	$25,818	$0	$1,986	0.6998
350	17	17	8	$33,318	$33,318	$15,679	0.6906
351				$0	$0	$0	0.2655
352	9	7	1	$16,308	$12,684	$1,812	0.6385
353				$0	$0	$0	1.937
354	24	15	15	$75,656	$47,285	$47,285	1.1108
355	97	74	102	$279,572	$213,281	$293,983	1.0156
356	31	11	15	$74,427	$26,410	$36,013	0.846
357	1		1	$5,445	$0	$5,445	1.9188
358	23	33	41	$71,081	$101,986	$126,710	1.089
359	35	27	24	$42,502	$32,787	$29,144	0.4279
360	12	11	9	$20,382	$18,683	$15,286	0.5985

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
361	76	58	38	$104,907	$80,061	$52,454	0.4864
362	11	27	54	$9,758	$23,953	$47,905	0.3126
363	44	4	9	$81,364	$7,397	$16,643	0.6516
364	42	62	47	$48,011	$70,873	$53,726	0.4028
365	17	7	24	$86,671	$35,688	$122,359	1.7965
366	4	1	1	$9,585	$2,396	$2,396	0.8444
367	12	3		$19,704	$4,926	$0	0.5786
368	33	38	21	$74,396	$85,669	$47,343	0.7944
369	69	52	25	$136,268	$102,695	$49,373	0.6959
370	90	31	28	$253,164	$87,201	$78,762	0.9912
371	349	211	201	$746,289	$451,195	$429,811	0.7535
372	265	47	59	$416,182	$73,813	$92,659	0.5534
373	1525	1056	804	$1,758,390	$1,217,613	$927,046	0.4063
374	72	57	40	$112,218	$88,839	$62,343	0.5492
375	10			$19,550	$0	$0	0.6889
376	16	5	1	$18,880	$5,900	$1,180	0.4158
377	7	2	5	$9,458	$2,702	$6,756	0.4761
378	23	24	14	$52,831	$55,128	$32,158	0.8094
379	40	37	29	$35,973	$33,275	$26,081	0.3169
380	30	37	8	$23,030	$28,403	$6,141	0.2705
381	138	89	84	$141,066	$90,977	$85,866	0.3602
382				$0	$0	$0	0.1842
383	178	112	122	$218,072	$137,214	$149,465	0.4317
384	63	33	34	$58,017	$30,390	$31,311	0.3245
385	43	38	19	$83,993	$74,227	$37,113	0.6883
386	7	2		$73,230	$20,923	$0	3.6863
387	6	2	1	$31,431	$10,477	$5,238	1.8459
389	26	24	6	$86,278	$79,641	$19,910	1.1693
389	59	86	22	$91,789	$133,794	$34,226	0.5482
390	138	103	40	$137,972	$102,979	$39,992	0.3523

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
391	1995	1117	1038	$1,268,771	$710,385	$660,143	0.2241
392		2		$0	$15,748	$0	2.7746
393			1	$0	$0	$4,361	1.5366
394	9	4	16	$28,468	$12,653	$50,610	1.1146
395	36	15	21	$80,087	$33,370	$46,717	0.7839
396	7		2	$12,505	$0	$3,573	0.6295
397	17	2	10	$47,584	$5,598	$27,990	0.9863
398	1		1	$2,526	$0	$2,526	0.89
399	10	8	15	$24,006	$19,205	$36,009	0.8459
400	1	3	1	$8,023	$24,070	$8,023	2.8272
401			2	$0	$0	$7,043	1.2409
402	1	1	1	$3,211	$3,211	$3,211	1.1316
403	13	2	8	$43,220	$6,649	$26,597	1.1715
404	31	3	4	$103,696	$10,035	$13,380	1.1787
405		1	1	$0	$2,985	$2,985.	1.0517
406	2			$12,868	$0	$0	2.2671
407	1		1	$6,063	$0	$6,063	2.1366
408	3	4	4	$9,696	$12,928	$12,928	1.1389
409				$0	$0	$0	0.8134
410	23			$23,021	$0	$0	0.3527
411	3	1	1	$6,148	$2,049	$2,049	0.7221
412	5			$4,824	$0	$0	0.34
413	3	6	1	$9,344	$18,688	$3,115	1.0975
414	15	9	8	$44,097	$26,458	$23,518	1.0359
415	17	4	11	$144,864	$34,086	$93,735	3.0027
416	5	3	7	$21,999	$13,200	$30,799	1.5504
417	2	3	2	$4,059	$6,089	$4,059	0.7152
418	20	11	1	$56,577	$31,117	$2,829	0.9968
419	2	1		$4,897	$2,449	$0	0.8628
420	9	5	5	$20,489	$11,383	$11,383	0.8022

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
421	69	65	24	$118,371	$111,509	$41,172	0.6045
422	73	10	36	$90,325	$12,373	$44,544	0.436
423	5	6	7	$17,179	$20,615	$24,051	1.2107
424	5		4	$31,129	$0	$24,903	2.1938
425	47	23	8	$90,860	$44,463	$15,465	0.6812
426	41	72	8	$110,478	$194,011	$21,557	0.9495
427	55	182	4	$119,842	$396,568	$8,716	0.7678
428	88	98	5	$243,268	$270,912	$13,822	0.9741
429	6	5	1	$16,215	$13,513	$2,703	0.9523
430	54	49	10	$167,560	$152,046	$31,030	1.0934
431	2	1		$12,781	$6,391	$0	2.2519
432	4	7	1	$11,948	$20,908	$2,987	1.0525
433				$0	$0	$0	0.4457
434		9	6	$0	$26,573	$17,715	1.0404
435	1	12		$3,047	$36,568	$0	1.0738
436	2	437	69	$5,025	$1,097,920	$173,356	0.8853
437	21	45	14	$36,848	$78,961	$24,566	0.6183
438	410	31	151	$979,703	$74,075	$360,818	0.842
439	1		1	$5,170	$0	$5,170	1.8219
440	2	2	2	$8,404	$8,404	$8,404	1.4807
441		3		$0	$6,113	$0	0.718
442	1		1	$5,399	$0	$5,399	1.9026
443	16	15	7	$69,068	$64,751	$30,217	1.5211
444	2	5	1	$5,012	$12,529	$2,506	0.883
445	23	31	2	$49,150	$66,245	$4,274	0.753
446	1			$1,375	$0	$0	0.4846
447	5	6	4	$6,790	$8,148	$5,432	0.4785
448	1			$995	$0	$0	0.3505
449	7	9	9	$14,563	$18,724	$18,724	0.7331
450	59	18	43	$99,742	$30,430	$72,693	0.5957

*MEDICARE REIMBURSEMENT WAS DETERMINED USING THE FY84 NATIONAL STANDARD RATE OF $2837.91

FY84 Diagnosis Related Groups Workload and Constructed Medicare Reimbursement Levels

DRG CATEGORY	DRGs CHAS	DRGs LONG BEACH	DRGs PENSA	CHAS MEDICARE REIMBURSEMENT	LB MEDICARE REIMBURSEMENT	PENSA MEDICARE REIMBURSEMENT	FY84 COST WEIGHTS
451	33	16	11	$27,271	$13,222	$9,090	0.2912
452	1		2	$2,410	$0	$4,820	0.8492
453	17	3	3	$43,517	$7,679	$7,679	0.902
454	2	1	1	$4,668	$2,334	$2,334	0.8224
455	12	8	19	$21,063	$14,042	$33,350	0.6185
456			1	$0	$0	$5,932	2.0902
457				$0	$0	$0	6.8631
458	3	2	1	$24,325	$16,217	$8,108	2.8572
459	2		3	$15,647	$0	$23,471	2.7568
460	20	18	7	$80,739	$72,665	$28,258	1.4225
461	5	5	4	$23,423	$23,423	$18,738	1.6507
462				$0	$0	$0	1.8268
463	3	2	3	$6,557	$4,372	$6,557	0.7702
464	12	3	8	$24,935	$6,234	$16,623	0.7322
465				$0	$0	$0	0.2071
466	8	8	4	$14,478	$14,478	$7,239	0.6377
467	72	29	41	$200,222	$80,645	$114,016	0.9799
468	86	94	73	$513,430	$561,190	$435,818	2.1037
469	0	0	0	$0	$0	$0	
470	0	0	0	$0	$0	$0	
TOTALS:	13195	9964	7437	$23,532,068	$19,064,391	$14,693,232	

APPENDIX F

CONSOLIDATED FY83 AND FY84 MEPR EXPENSE AND WORKLOAD DATA

MEPR INPATIENT EXPENSES AND DISPOSITIONS

INPATIENT CARE	CHARLESTON	LONG BEACH	PENSACOLA
FY84 EXPENSES	$14,929,978	$15,041,916	$10,093,468
FY84 DISPOSITIONS	12,856	9,436	7,237
FY84 ALOS	4.4	4.7	4.3
FY84 PHYSICIAN SALARIES	$693,536	$762,562	$551,489
FY84 EXPENSES (less) PHYSICIAN SALARIES	$14,236,442	$14,279,354	$9,541,979
FY83 EXPENSES(ACT)	$13,784,155	$14,822,302	$9,704,460
FY83 EXPENSES(ADJ)	$15,024,729	$16,156,309	$10,577,861
FY83 DISPOSITIONS	13,024	9,341	6,998
FY83 ALOS	4.3	4.4	5.0
FY83 PHYSICIAN(ACT) SALARIES	$691,179	$909,556	$670,086
FY83 PHYSICIAN(ADJ) SALARIES	$753,385	$991,416	$730,394
FY83 EXPENSES(ADJ) (less) PHYSICIAN SALARIES	$14,271,343	$15,164,893	$9,847,468

LIST OF REFERENCES

1. Grimaldi, P. L. and Micheletti, J. A., Prospective Payment: The Definitive Guide to Reimbursement, Pluribus Press, 1985.

2. Smith, H. L. and Fottler, M. D., Prospective Payment: Management for Operational Effectiveness, Aspen Systems, 1985.

3. Broyles, R. W. and Rosko, M. D., Planning and Internal Control under Prospective Payment, Aspen Systems, 1985.

4. Collins, J. A., "Case-Mix Accounting Can Help Hospitals Control Costs," Management Accounting, November 1985.

5. Fetter, R. B. and Freeman, J. L., "Diagnosis Related Groups: Product Line Management within Hospitals," Academy of Management Review, V. 11, 1986.

6. Fetter, R. B., Thompson, J. D., and Kimberly, J. R., Cases in Health Policy and Management, Richard D. Irwin, 1985.

7. Chase, R. B. and Aquilano, N. J., Production and Operations Management, 2d ed., Irwin, 1977.

8. McMahon, L. F. and Smits, H. L., "Can Medicare Prospective Payment Survive the ICD-9-CM Disease Classification System," Annals of Internal Medicine, V. 104, April 1986.

9. Naval School of Health Sciences Research Report 2-85, An Attempt to Refine DRGs for Navy Medical Department Use by Including Military Unique Variables and An Estimate of Disease Severity, by T. L. Kay and K. A. Rieder, February 1985.

10. Sonquist, J. A. and Morgan, J. N., "The Detection of Interaction Effects," Ann Arbor, Institute for Social Research, University of Michigan, 1964.

11. Moran, J. N. and Sonquist. J. A., "Problems in the Analysis of Survey Data and a Proposal," Journal of the American Statistical Association, June 1963.

12. Woods, W. R., Ament, R. P., and Kobrinski, E. J., "A Foundation for Hospital Case Mix Measurement," Inquiry, V. 18, Fall 1981.

13. Mills, R., and others, "AUTOGRP: An Interactive Computer System for the Analysis of Health Care Data," Health Care, V. 14, July 1976.

14. Sapolsky, H. M., Greene, R., and Weiner, S. L., "DRGs in Theory and in Practice," Business and Health, June 1986.

15. May, J. J. and Wasserman, J., "Selected Results from an Evaluation of the New Jersey Diagnosis-Related Group System," Health Services Research, V. 19, December 1984.

16. Spiegel, A. D. and Kavaler, F., "The Debate over Diagnosis Related Groups," Journal of Community Health, V. 10, Summer 1985.

17. Conner, R. A., "Linking Payment Information Systems for the 1990s," Computers in Health Care, V. 7, February 1986.

18. Kaemmerer, C., "A New Reimbursement System: DRGs Are Coming," Connecticut Medicine, V. 47, November 1983.

19. U. S. Department of Health and Human Services, Institute for Health Planning Monographs, The Use of DRGs in Health Planning, HRP-0906218, by C. Oviatt, 1985.

20. Riddick, F., "The Doctor and the DRG," The Internist, V. 24, June 1983.

21. Kerr, S., "On The Folly of Rewarding A, While Hoping for B," Academy of Management Journal, May 1975.

22. Wennberg, J. E., and others, "Will Payment Based on Diagnosis-Related Groups Control Hospital Costs?" New England Journal of Medicine, V. 311, 2 November 1984.

23. Horn, S. D., and others, "Severity of Illness within DRGs: Impact on Prospective Payment," American Journal of Public Health, V. 75, October 1985.

24. McMahon, L. F. and Newbold, R., "Variation in Resources Use Within Diagnosis-related Groups," Medical Care, V. 24, May 1986.

25. Alper, P. R., "Moderating Hospital Costs," Medical World News, V. 25, 28 May 1984.

26. McIllrath, S., "Revised Grace Panel Report: No DRGs for Physician," American Medical News, V. 27, 27 January 1984.

27. Office of the Federal Register, Federal Register, Washington, D. C., 1986.

28. U. S. Department of Defense, Medical Expense and Performance Reporting System for fixed Military Medical and Dental Treatment Facilities, Washington, D. C., 1986.

29. Reinhardt, Uwe E., "Battle Over Medical Costs Isn't Over," The Wall Street Journal, October 22, 1986.

30. "Costs of VA Acute Care Comparable to Private Sector," Modern Healthcare, 1 August 1986.

INITIAL DISTRIBUTION LIST

		No. Copies
1.	Defense Technical Information Center Cameron Station Alexandria, Virginia 22304-6145	2
2.	Library, Code 0142 Naval Postgraduate School Monterey, California 93943-5002	2
3.	Professor David R. Whipple, Jr. Code 54Wp Department of Administrative Sciences Naval Postgraduat School Monterey, California 93943-5000	15
4.	Assistant Secretary of Defense (Health Affairs) Room 3D200, Pentagon Washington, D.C. 20301-2000	1
5.	Surgeon General Office of Chief of Naval Operations (OP-093) Navy Department Washington, D.C. 20350-2000	1
6.	Commander Naval Medical Command Navy Department Washington, D.C. 20350-5120	1
7.	Commander Naval Medical Command MEDCOM-05 Director, Medical Service Corps Navy Department Washington, D.C. 20372-5120	1
8.	Chief, Health Care Studies Division Department of the Army U.S. Army Health Care Studies and Clinical Investigation Activity Fort Sam Houston, Texas 78234-6060	1

9. LT H. Thomas Osment, MSC, USN — 2
Code 14
Naval Medical Command
Navy Department
Washington, D.C. 20372-5120

10. Commanding Officer — 2
U.S. Naval Hospital Rota, Spain
ATTN: LCDR Albert B. Long, III, MSC, USN
Fiscal/Materials Management Service
FPO NY 09540-2500

11. Department Chairman, Code 54 — 1
Department of Administrative Sciences
Naval Postgraduate School
Monterey, California 93943-5000